



SEQUENCE LISTING

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STAHN, RENATE
KARSTEN, UWE

<120> RECOGNITION MOLECULES FOR THE TREATMENT AND DETECTION
OF TUMORS

<130> VOSSM-0001

<140> 10/540,479

<141> 2005-06-23

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<151> 2003-01-23

<160> 99

<170> PatentIn Ver. 3.5

<210> 1

<211> 5

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
peptide

<400> 1

Asp Ala Trp Met Asp
1 5

<210> 2

<211> 5

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
peptide

<400> 2

Asn Tyr Trp Met Asn
1 5

<210> 3

<211> 19

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic peptide

<400> 3

Glu	Ile	Arg	Ser	Lys	Ala	Asn	Asn	His	Ala	Thr	Tyr	Tyr	Ala	Glu	Ser
1				5					10					15	

Val Lys Gly

<210> 4

<211> 19

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic peptide

<400> 4

Glu	Ile	Arg	Leu	Lys	Ser	Asn	Asn	Tyr	Thr	Thr	His	Tyr	Ala	Glu	Ser
1				5					10					15	

Val Lys Gly

<210> 5

<211> 7

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic peptide

<400> 5

Gly	Gly	Tyr	Gly	Phe	Asp	Tyr
1				5		

<210> 6

<211> 6

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic peptide

<400> 6

His	Tyr	Tyr	Phe	Asp	Tyr
1				5	

<210> 7
 <211> 16
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: Synthetic
 peptide

<400> 7
 Arg Ser Ser Gln Ser Ile Val His Ser Asn Gly Asn Thr Tyr Leu Glu
 1 5 10 15

<210> 8
 <211> 16
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: Synthetic
 peptide

<400> 8
 Arg Ser Ser Lys Ser Leu Leu His Ser Asn Gly Ile Thr Tyr Phe Phe
 1 5 10 15

<210> 9
 <211> 7
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: Synthetic
 peptide

<400> 9
 Lys Val Ser Asn Arg Phe Ser
 1 5

<210> 10
 <211> 7
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: Synthetic
 peptide

<400> 10
 Gln Met Ser Asn Leu Ala Ser
 1 5

<210> 11
<211> 9
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic peptide

<400> 11
Phe Gln Gly Ser His Val Pro Leu Thr
1 5

<210> 12
<211> 9
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic peptide

<400> 12
Ala Gln Asn Leu Glu Leu Pro Pro Thr
1 5

<210> 13
<211> 5
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic peptide

<400> 13
Asn Tyr Trp Val Asn
1 5

<210> 14
<211> 5
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic peptide

<400> 14
Asn Tyr Trp Ile Asn
1 5

<210> 15
<211> 5
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
peptide

<400> 15
Asn Tyr Trp Tyr Asn
1 5

<210> 16
<211> 5
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
peptide

<400> 16
Asn Tyr Trp Trp Asn
1 5

<210> 17
<211> 5
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
peptide

<400> 17
Asp Ala Trp Ile Asp
1 5

<210> 18
<211> 5
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
peptide

<400> 18
Asp Ala Trp Val Asp
1 5

<210> 19
 <211> 5
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: Synthetic peptide

<400> 19
 Asp Ala Trp Tyr Asp
 1 5

<210> 20
 <211> 5
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: Synthetic peptide

<400> 20
 Asp Ala Trp Trp Asp
 1 5

<210> 21
 <211> 19
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: Synthetic peptide

<400> 21
 Glu Ile Arg Ser Lys Ala Asn Asn Tyr Ala Thr Tyr Tyr Ala Glu Ser
 1 5 10 15

Val Lys Gly

<210> 22
 <211> 19
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: Synthetic peptide

<400> 22
 Glu Ile Arg Leu Lys Ser Asn Lys Tyr Thr Thr His Tyr Ala Glu Ser
 1 5 10 15

Val Lys Gly

<210> 23
 <211> 19
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: Synthetic
 peptide

<400> 23
 Glu Ile Arg Leu Lys Ser Asn Ser Tyr Thr Thr His Tyr Ala Glu Ser
 1 5 10 15

Val Lys Gly

<210> 24
 <211> 16
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: Synthetic
 peptide

<400> 24
 Arg Pro Ser Gln Ser Ile Val His Ser Asn Gly Asn Thr Tyr Leu Glu
 1 5 10 15

<210> 25
 <211> 16
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: Synthetic
 peptide

<400> 25
 Arg Ser Ser Gln Ser Ile Val His Ser Asn Gly Asn Thr Tyr Phe Glu
 1 5 10 15

<210> 26
 <211> 16
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: Synthetic
 peptide

<400> 26

Arg	Pro	Ser	Gln	Ser	Ile	Val	His	Ser	Asn	Gly	Asn	Thr	Tyr	Phe	Glu
1				5					10					15	

<210> 27

<211> 16

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic peptide

<400> 27

Arg	Pro	Ser	Lys	Ser	Leu	Leu	His	Ser	Asn	Gly	Ile	Thr	Tyr	Phe	Phe
1				5					10					15	

<210> 28

<211> 16

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic peptide

<400> 28

Arg	Ser	Ser	Lys	Ser	Leu	Leu	His	Ser	Asn	Gly	Ile	Thr	Tyr	Leu	Phe
1				5					10					15	

<210> 29

<211> 16

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic peptide

<400> 29

Arg	Pro	Ser	Lys	Ser	Leu	Leu	His	Ser	Asn	Gly	Ile	Thr	Tyr	Leu	Phe
1				5					10					15	

<210> 30

<211> 9

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic peptide

<400> 30

Phe Gln Gly Ser His Pro Pro Leu Thr
1 5

<210> 31

<211> 9

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic peptide

<400> 31

Ala Gln Asn Leu Glu Pro Pro Pro Thr
1 5

<210> 32

<211> 118

<212> PRT

<213> Mus musculus

<400> 32

Glu Val Lys Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15

Ser Met Lys Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Asp Ala
20 25 30

Trp Met Asp Trp Val Arg Gln Ser Pro Glu Lys Gly Leu Glu Trp Val
35 40 45

Ala Glu Ile Arg Ser Lys Ala Asn Asn His Ala Thr Tyr Tyr Ala Glu
50 55 60

Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Val Ser Lys Ser Ser
65 70 75 80

Val Tyr Leu Gln Met Asn Asn Leu Arg Ala Glu Asp Thr Gly Ile Tyr
85 90 95

Tyr Cys Thr Arg Gly Gly Tyr Gly Phe Asp Tyr Trp Gly Gln Gly Thr
100 105 110

Thr Leu Thr Val Ser Ser
115

<210> 33

<211> 117

<212> PRT

<213> Mus musculus

<400> 33

Glu Val Lys Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15

Ser Met Lys Leu Ser Cys Val Ala Ser Gly Phe Thr Phe Ser Asn Tyr
 20 25 30
 Trp Met Asn Trp Val Arg Gln Ser Pro Glu Lys Gly Leu Glu Trp Val
 35 40 45
 Ala Glu Ile Arg Leu Lys Ser Asn Asn Tyr Thr Thr His Tyr Ala Glu
 50 55 60
 Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asp Ser Lys Ser Ser
 65 70 75 80
 Val Ser Leu Gln Met Asn Asn Leu Arg Val Glu Asp Thr Gly Ile Tyr
 85 90 95
 Tyr Cys Thr Arg His Tyr Tyr Phe Asp Tyr Trp Gly Gln Gly Thr Thr
 100 105 110
 Leu Thr Val Ser Ser
 115

<210> 34
 <211> 114
 <212> PRT
 <213> Mus musculus

<400> 34
 Asp Ile Val Leu Thr Gln Thr Pro Leu Ser Leu Pro Val Ser Leu Gly
 1 5 10 15
 Asp Gln Ala Ser Ile Ser Cys Arg Ser Ser Gln Ser Ile Val His Ser
 20 25 30
 Asn Gly Asn Thr Tyr Leu Glu Trp Tyr Leu Gln Lys Pro Gly Gln Ser
 35 40 45
 Pro Lys Leu Leu Ile Tyr Lys Val Ser Asn Arg Phe Ser Gly Val Pro
 50 55 60
 Asp Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Lys Ile
 65 70 75 80
 Ser Arg Val Glu Ala Glu Asp Leu Gly Val Tyr Tyr Cys Phe Gln Gly
 85 90 95
 Ser His Val Pro Leu Thr Phe Gly Asp Gly Thr Lys Leu Glu Leu Lys
 100 105 110
 Arg Ala

<210> 35
 <211> 114
 <212> PRT
 <213> Mus musculus

<400> 35

Asp Ile Val Met Thr Gln Ala Ala Phe Ser Asn Pro Val Thr Leu Gly
 1 5 10 15

Thr Ser Ala Ser Ile Ser Cys Arg Ser Ser Lys Ser Leu Leu His Ser
 20 25 30

Asn Gly Ile Thr Tyr Phe Phe Trp Tyr Leu Gln Lys Pro Gly Leu Ser
 35 40 45

Pro Gln Leu Leu Ile Tyr Gln Met Ser Asn Leu Ala Ser Gly Val Pro
 50 55 60

Asp Arg Phe Ser Ser Ser Gly Ser Gly Thr Asp Phe Thr Leu Arg Ile
 65 70 75 80

Ser Arg Val Glu Ala Glu Asp Val Gly Val Tyr Tyr Cys Ala Gln Asn
 85 90 95

Leu Glu Leu Pro Pro Thr Phe Gly Gly Gly Thr Lys Leu Glu Ile Lys
 100 105 110

Arg Ala

<210> 36

<211> 275

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
 single chain Fv format

<400> 36

Glu Val Lys Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
 1 5 10 15

Ser Met Lys Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Asp Ala
 20 25 30

Trp Met Asp Trp Val Arg Gln Ser Pro Glu Lys Gly Leu Glu Trp Val
 35 40 45

Ala Glu Ile Arg Ser Lys Ala Asn Asn His Ala Thr Tyr Tyr Ala Glu
 50 55 60

Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Val Ser Lys Ser Ser
 65 70 75 80

Val Tyr Leu Gln Met Asn Asn Leu Arg Ala Glu Asp Thr Gly Ile Tyr
 85 90 95

Tyr Cys Thr Arg Gly Gly Tyr Gly Phe Asp Tyr Trp Gly Gln Gly Thr
 100 105 110

Thr Leu Thr Val Ser Ser Ala Ser Ser Gly Gly Gly Gly Ser Gly Gly
 115 120 125
 Gly Gly Ser Gly Gly Ser Ala Arg Asp Ile Val Leu Thr Gln Thr Pro
 130 135 140
 Leu Ser Leu Pro Val Ser Leu Gly Asp Gln Ala Ser Ile Ser Cys Arg
 145 150 155 160
 Ser Ser Gln Ser Ile Val His Ser Asn Gly Asn Thr Tyr Leu Glu Trp
 165 170 175
 Tyr Leu Gln Lys Pro Gly Gln Ser Pro Lys Leu Leu Ile Tyr Lys Val
 180 185 190
 Ser Asn Arg Phe Ser Gly Val Pro Asp Arg Phe Ser Gly Ser Gly Ser
 195 200 205
 Gly Thr Asp Phe Thr Leu Lys Ile Ser Arg Val Glu Ala Glu Asp Leu
 210 215 220
 Gly Val Tyr Tyr Cys Phe Gln Gly Ser His Val Pro Leu Thr Phe Gly
 225 230 235 240
 Asp Gly Thr Lys Leu Glu Leu Lys Arg Ala Ala Ala His His His His
 245 250 255
 His His Gly Ala Ala Glu Gln Lys Leu Ile Ser Glu Glu Asp Leu Asn
 260 265 270
 Gly Ala Ala
 275

<210> 37
 <211> 266
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: Synthetic
 single chain Fv format

<400> 37
 Glu Val Lys Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
 1 5 10 15
 Ser Met Lys Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Asp Ala
 20 25 30
 Trp Met Asp Trp Val Arg Gln Ser Pro Glu Lys Gly Leu Glu Trp Val
 35 40 45
 Ala Glu Ile Arg Ser Lys Ala Asn Asn His Ala Thr Tyr Tyr Ala Glu
 50 55 60
 Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Val Ser Lys Ser Ser
 65 70 75 80

Val Tyr Leu Gln Met Asn Asn Leu Arg Ala Glu Asp Thr Gly Ile Tyr
 85 90 95
 Tyr Cys Thr Arg Gly Gly Tyr Gly Phe Asp Tyr Trp Gly Gln Gly Thr
 100 105 110
 Thr Leu Thr Val Ser Ser Ala Ser Ser Gly Ser Gly Ser Ser Ala Asp
 115 120 125
 Ile Val Leu Thr Gln Thr Pro Leu Ser Leu Pro Val Ser Leu Gly Asp
 130 135 140
 Gln Ala Ser Ile Ser Cys Arg Ser Ser Gln Ser Ile Val His Ser Asn
 145 150 155 160
 Gly Asn Thr Tyr Leu Glu Trp Tyr Leu Gln Lys Pro Gly Gln Ser Pro
 165 170 175
 Lys Leu Leu Ile Tyr Lys Val Ser Asn Arg Phe Ser Gly Val Pro Asp
 180 185 190
 Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Lys Ile Ser
 195 200 205
 Arg Val Glu Ala Glu Asp Leu Gly Val Tyr Tyr Cys Phe Gln Gly Ser
 210 215 220
 His Val Pro Leu Thr Phe Gly Asp Gly Thr Lys Leu Glu Leu Lys Arg
 225 230 235 240
 Ala Ala Ala His His His His His His Gly Ala Ala Glu Gln Lys Leu
 245 250 255
 Ile Ser Glu Glu Asp Leu Asn Gly Ala Ala
 260 265

<210> 38

<211> 265

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
single chain Fv format

<400> 38

Glu Val Lys Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
 1 5 10 15
 Ser Met Lys Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Asp Ala
 20 25 30
 Trp Met Asp Trp Val Arg Gln Ser Pro Glu Lys Gly Leu Glu Trp Val
 35 40 45

Ala Glu Ile Arg Ser Lys Ala Asn Asn His Ala Thr Tyr Tyr Ala Glu
 50 55 60
 Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Val Ser Lys Ser Ser
 65 70 75 80
 Val Tyr Leu Gln Met Asn Asn Leu Arg Ala Glu Asp Thr Gly Ile Tyr
 85 90 95
 Tyr Cys Thr Arg Gly Gly Tyr Gly Phe Asp Tyr Trp Gly Gln Gly Thr
 100 105 110
 Thr Leu Thr Val Ser Ser Ala Ser Ser Gly Gly Ser Ser Ala Asp Ile
 115 120 125
 Val Leu Thr Gln Thr Pro Leu Ser Leu Pro Val Ser Leu Gly Asp Gln
 130 135 140
 Ala Ser Ile Ser Cys Arg Ser Ser Gln Ser Ile Val His Ser Asn Gly
 145 150 155 160
 Asn Thr Tyr Leu Glu Trp Tyr Leu Gln Lys Pro Gly Gln Ser Pro Lys
 165 170 175
 Leu Leu Ile Tyr Lys Val Ser Asn Arg Phe Ser Gly Val Pro Asp Arg
 180 185 190
 Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Lys Ile Ser Arg
 195 200 205
 Val Glu Ala Glu Asp Leu Gly Val Tyr Tyr Cys Phe Gln Gly Ser His
 210 215 220
 Val Pro Leu Thr Phe Gly Asp Gly Thr Lys Leu Glu Leu Lys Arg Ala
 225 230 235 240
 Ala Ala His His His His His His Gly Ala Ala Glu Gln Lys Leu Ile
 245 250 255
 Ser Glu Glu Asp Leu Asn Gly Ala Ala
 260 265

<210> 39

<211> 264

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
single chain Fv format

<400> 39

Glu Val Lys Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
 1 5 10 15

Ser Met Lys Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Asp Ala
 20 25 30

Trp Met Asp Trp Val Arg Gln Ser Pro Glu Lys Gly Leu Glu Trp Val
 35 40 45
 Ala Glu Ile Arg Ser Lys Ala Asn Asn His Ala Thr Tyr Tyr Ala Glu
 50 55 60
 Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Val Ser Lys Ser Ser
 65 70 75 80
 Val Tyr Leu Gln Met Asn Asn Leu Arg Ala Glu Asp Thr Gly Ile Tyr
 85 90 95
 Tyr Cys Thr Arg Gly Gly Tyr Gly Phe Asp Tyr Trp Gly Gln Gly Thr
 100 105 110
 Thr Leu Thr Val Ser Ser Ala Ser Ser Gly Ser Ser Ala Asp Ile Val
 115 120 125
 Leu Thr Gln Thr Pro Leu Ser Leu Pro Val Ser Leu Gly Asp Gln Ala
 130 135 140
 Ser Ile Ser Cys Arg Ser Ser Gln Ser Ile Val His Ser Asn Gly Asn
 145 150 155 160
 Thr Tyr Leu Glu Trp Tyr Leu Gln Lys Pro Gly Gln Ser Pro Lys Leu
 165 170 175
 Leu Ile Tyr Lys Val Ser Asn Arg Phe Ser Gly Val Pro Asp Arg Phe
 180 185 190
 Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Lys Ile Ser Arg Val
 195 200 205
 Glu Ala Glu Asp Leu Gly Val Tyr Tyr Cys Phe Gln Gly Ser His Val
 210 215 220
 Pro Leu Thr Phe Gly Asp Gly Thr Lys Leu Glu Leu Lys Arg Ala Ala
 225 230 235 240
 Ala His His His His His His Gly Ala Ala Glu Gln Lys Leu Ile Ser
 245 250 255
 Glu Glu Asp Leu Asn Gly Ala Ala
 260

<210> 40

<211> 263

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
single chain Fv format

<400> 40

Glu Val Lys Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
 1 5 10 15

Ser Met Lys Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Asp Ala
 20 25 30

Trp Met Asp Trp Val Arg Gln Ser Pro Glu Lys Gly Leu Glu Trp Val
 35 40 45

Ala Glu Ile Arg Ser Lys Ala Asn Asn His Ala Thr Tyr Tyr Ala Glu
 50 55 60

Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Val Ser Lys Ser Ser
 65 70 75 80

Val Tyr Leu Gln Met Asn Asn Leu Arg Ala Glu Asp Thr Gly Ile Tyr
 85 90 95

Tyr Cys Thr Arg Gly Gly Tyr Gly Phe Asp Tyr Trp Gly Gln Gly Thr
 100 105 110

Thr Leu Thr Val Ser Ser Ala Ser Ser Ser Ser Ala Asp Ile Val Leu
 115 120 125

Thr Gln Thr Pro Leu Ser Leu Pro Val Ser Leu Gly Asp Gln Ala Ser
 130 135 140

Ile Ser Cys Arg Ser Ser Gln Ser Ile Val His Ser Asn Gly Asn Thr
 145 150 155 160

Tyr Leu Glu Trp Tyr Leu Gln Lys Pro Gly Gln Ser Pro Lys Leu Leu
 165 170 175

Ile Tyr Lys Val Ser Asn Arg Phe Ser Gly Val Pro Asp Arg Phe Ser
 180 185 190

Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Lys Ile Ser Arg Val Glu
 195 200 205

Ala Glu Asp Leu Gly Val Tyr Tyr Cys Phe Gln Gly Ser His Val Pro
 210 215 220

Leu Thr Phe Gly Asp Gly Thr Lys Leu Glu Leu Lys Arg Ala Ala Ala
 225 230 235 240

His His His His His His Gly Ala Ala Glu Gln Lys Leu Ile Ser Glu
 245 250 255

Glu Asp Leu Asn Gly Ala Ala
 260

<210> 41

<211> 262

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
single chain Fv format

<400> 41

Glu	Val	Lys	Leu	Val	Glu	Ser	Gly	Gly	Gly	Leu	Val	Gln	Pro	Gly	Gly	1	5	10	15
Ser	Met	Lys	Leu	Ser	Cys	Ala	Ala	Ser	Gly	Phe	Thr	Phe	Ser	Asp	Ala	20	25	30	
Trp	Met	Asp	Trp	Val	Arg	Gln	Ser	Pro	Glu	Lys	Gly	Leu	Glu	Trp	Val	35	40	45	
Ala	Glu	Ile	Arg	Ser	Lys	Ala	Asn	Asn	His	Ala	Thr	Tyr	Tyr	Ala	Glu	50	55	60	
Ser	Val	Lys	Gly	Arg	Phe	Thr	Ile	Ser	Arg	Asp	Val	Ser	Lys	Ser	Ser	65	70	75	80
Val	Tyr	Leu	Gln	Met	Asn	Asn	Leu	Arg	Ala	Glu	Asp	Thr	Gly	Ile	Tyr	85	90	95	
Tyr	Cys	Thr	Arg	Gly	Gly	Tyr	Gly	Phe	Asp	Tyr	Trp	Gly	Gln	Gly	Thr	100	105	110	
Thr	Leu	Thr	Val	Ser	Ser	Ala	Ser	Ser	Ser	Ala	Asp	Ile	Val	Leu	Thr	115	120	125	
Gln	Thr	Pro	Leu	Ser	Leu	Pro	Val	Ser	Leu	Gly	Asp	Gln	Ala	Ser	Ile	130	135	140	
Ser	Cys	Arg	Ser	Ser	Gln	Ser	Ile	Val	His	Ser	Asn	Gly	Asn	Thr	Tyr	145	150	155	160
Leu	Glu	Trp	Tyr	Leu	Gln	Lys	Pro	Gly	Gln	Ser	Pro	Lys	Leu	Leu	Ile	165	170	175	
Tyr	Lys	Val	Ser	Asn	Arg	Phe	Ser	Gly	Val	Pro	Asp	Arg	Phe	Ser	Gly	180	185	190	
Ser	Gly	Ser	Gly	Thr	Asp	Phe	Thr	Leu	Lys	Ile	Ser	Arg	Val	Glu	Ala	195	200	205	
Glu	Asp	Leu	Gly	Val	Tyr	Tyr	Cys	Phe	Gln	Gly	Ser	His	Val	Pro	Leu	210	215	220	
Thr	Phe	Gly	Asp	Gly	Thr	Lys	Leu	Glu	Leu	Lys	Arg	Ala	Ala	Ala	His	225	230	235	240
His	His	His	His	His	Gly	Ala	Ala	Glu	Gln	Lys	Leu	Ile	Ser	Glu	Glu	245	250	255	
Asp	Leu	Asn	Gly	Ala	Ala	260													

<210> 42
 <211> 261
 <212> PRT
 <213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
 single chain Fv format

<400> 42

Glu	Val	Lys	Leu	Val	Glu	Ser	Gly	Gly	Gly	Leu	Val	Gln	Pro	Gly	Gly		
1				5					10					15			
Ser	Met	Lys	Leu	Ser	Cys	Ala	Ala	Ser	Gly	Phe	Thr	Phe	Ser	Asp	Ala		
			20					25					30				
Trp	Met	Asp	Trp	Val	Arg	Gln	Ser	Pro	Glu	Lys	Gly	Leu	Glu	Trp	Val		
		35					40					45					
Ala	Glu	Ile	Arg	Ser	Lys	Ala	Asn	Asn	His	Ala	Thr	Tyr	Tyr	Ala	Glu		
	50					55					60						
Ser	Val	Lys	Gly	Arg	Phe	Thr	Ile	Ser	Arg	Asp	Val	Ser	Lys	Ser	Ser		
65					70					75					80		
Val	Tyr	Leu	Gln	Met	Asn	Asn	Leu	Arg	Ala	Glu	Asp	Thr	Gly	Ile	Tyr		
				85					90					95			
Tyr	Cys	Thr	Arg	Gly	Gly	Tyr	Gly	Phe	Asp	Tyr	Trp	Gly	Gln	Gly	Thr		
			100					105					110				
Thr	Leu	Thr	Val	Ser	Ser	Ala	Ser	Ser	Ala	Asp	Ile	Val	Leu	Thr	Gln		
			115				120					125					
Thr	Pro	Leu	Ser	Leu	Pro	Val	Ser	Leu	Gly	Asp	Gln	Ala	Ser	Ile	Ser		
	130					135					140						
Cys	Arg	Ser	Ser	Gln	Ser	Ile	Val	His	Ser	Asn	Gly	Asn	Thr	Tyr	Leu		
145					150					155					160		
Glu	Trp	Tyr	Leu	Gln	Lys	Pro	Gly	Gln	Ser	Pro	Lys	Leu	Leu	Ile	Tyr		
			165						170					175			
Lys	Val	Ser	Asn	Arg	Phe	Ser	Gly	Val	Pro	Asp	Arg	Phe	Ser	Gly	Ser		
			180					185					190				
Gly	Ser	Gly	Thr	Asp	Phe	Thr	Leu	Lys	Ile	Ser	Arg	Val	Glu	Ala	Glu		
	195						200					205					
Asp	Leu	Gly	Val	Tyr	Tyr	Cys	Phe	Gln	Gly	Ser	His	Val	Pro	Leu	Thr		
	210					215					220						
Phe	Gly	Asp	Gly	Thr	Lys	Leu	Glu	Leu	Lys	Arg	Ala	Ala	Ala	His	His		
225					230					235					240		
His	His	His	His	Gly	Ala	Ala	Glu	Gln	Lys	Leu	Ile	Ser	Glu	Glu	Asp		
				245					250					255			

Leu Asn Gly Ala Ala
260

<210> 43
<211> 260
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
single chain Fv format

<400> 43
Glu Val Lys Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15
Ser Met Lys Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Asp Ala
20 25 30
Trp Met Asp Trp Val Arg Gln Ser Pro Glu Lys Gly Leu Glu Trp Val
35 40 45
Ala Glu Ile Arg Ser Lys Ala Asn Asn His Ala Thr Tyr Tyr Ala Glu
50 55 60
Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Val Ser Lys Ser Ser
65 70 75 80
Val Tyr Leu Gln Met Asn Asn Leu Arg Ala Glu Asp Thr Gly Ile Tyr
85 90 95
Tyr Cys Thr Arg Gly Gly Tyr Gly Phe Asp Tyr Trp Gly Gln Gly Thr
100 105 110
Thr Leu Thr Val Ser Ser Ala Ser Ala Asp Ile Val Leu Thr Gln Thr
115 120 125
Pro Leu Ser Leu Pro Val Ser Leu Gly Asp Gln Ala Ser Ile Ser Cys
130 135 140
Arg Ser Ser Gln Ser Ile Val His Ser Asn Gly Asn Thr Tyr Leu Glu
145 150 155 160
Trp Tyr Leu Gln Lys Pro Gly Gln Ser Pro Lys Leu Leu Ile Tyr Lys
165 170 175
Val Ser Asn Arg Phe Ser Gly Val Pro Asp Arg Phe Ser Gly Ser Gly
180 185 190
Ser Gly Thr Asp Phe Thr Leu Lys Ile Ser Arg Val Glu Ala Glu Asp
195 200 205
Leu Gly Val Tyr Tyr Cys Phe Gln Gly Ser His Val Pro Leu Thr Phe
210 215 220
Gly Asp Gly Thr Lys Leu Glu Leu Lys Arg Ala Ala Ala His His His
225 230 235 240

His His His Gly Ala Ala Glu Gln Lys Leu Ile Ser Glu Glu Asp Leu
 245 250 255

Asn Gly Ala Ala
 260

<210> 44

<211> 259

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
 single chain Fv format

<400> 44

Glu Val Lys Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
 1 5 10 15

Ser Met Lys Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Asp Ala
 20 25 30

Trp Met Asp Trp Val Arg Gln Ser Pro Glu Lys Gly Leu Glu Trp Val
 35 40 45

Ala Glu Ile Arg Ser Lys Ala Asn Asn His Ala Thr Tyr Tyr Ala Glu
 50 55 60

Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Val Ser Lys Ser Ser
 65 70 75 80

Val Tyr Leu Gln Met Asn Asn Leu Arg Ala Glu Asp Thr Gly Ile Tyr
 85 90 95

Tyr Cys Thr Arg Gly Gly Tyr Gly Phe Asp Tyr Trp Gly Gln Gly Thr
 100 105 110

Thr Leu Thr Val Ser Ser Ala Ala Asp Ile Val Leu Thr Gln Thr Pro
 115 120 125

Leu Ser Leu Pro Val Ser Leu Gly Asp Gln Ala Ser Ile Ser Cys Arg
 130 135 140

Ser Ser Gln Ser Ile Val His Ser Asn Gly Asn Thr Tyr Leu Glu Trp
 145 150 155 160

Tyr Leu Gln Lys Pro Gly Gln Ser Pro Lys Leu Leu Ile Tyr Lys Val
 165 170 175

Ser Asn Arg Phe Ser Gly Val Pro Asp Arg Phe Ser Gly Ser Gly Ser
 180 185 190

Gly Thr Asp Phe Thr Leu Lys Ile Ser Arg Val Glu Ala Glu Asp Leu
 195 200 205

Gly Val Tyr Tyr Cys Phe Gln Gly Ser His Val Pro Leu Thr Phe Gly
 210 215 220

Asp Gly Thr Lys Leu Glu Leu Lys Arg Ala Ala Ala His His His His
 225 230 235 240

His His Gly Ala Ala Glu Gln Lys Leu Ile Ser Glu Glu Asp Leu Asn
 245 250 255

Gly Ala Ala

<210> 45
 <211> 255
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: Synthetic
 single chain Fv format

<400> 45
 Glu Val Lys Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
 1 5 10 15

Ser Met Lys Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Asp Ala
 20 25 30

Trp Met Asp Trp Val Arg Gln Ser Pro Glu Lys Gly Leu Glu Trp Val
 35 40 45

Ala Glu Ile Arg Ser Lys Ala Asn Asn His Ala Thr Tyr Tyr Ala Glu
 50 55 60

Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Val Ser Lys Ser Ser
 65 70 75 80

Val Tyr Leu Gln Met Asn Asn Leu Arg Ala Glu Asp Thr Gly Ile Tyr
 85 90 95

Tyr Cys Thr Arg Gly Gly Tyr Gly Phe Asp Tyr Trp Gly Gln Gly Thr
 100 105 110

Thr Leu Thr Val Ser Ser Ala Asp Ile Val Leu Thr Gln Thr Pro Leu
 115 120 125

Ser Leu Pro Val Ser Leu Gly Asp Gln Ala Ser Ile Ser Cys Arg Ser
 130 135 140

Ser Gln Ser Ile Val His Ser Asn Gly Asn Thr Tyr Leu Glu Trp Tyr
 145 150 155 160

Leu Gln Lys Pro Gly Gln Ser Pro Lys Leu Leu Ile Tyr Lys Val Ser
 165 170 175

Asn Arg Phe Ser Gly Val Pro Asp Arg Phe Ser Gly Ser Gly Ser Gly
 180 185 190

Thr Asp Phe Thr Leu Lys Ile Ser Arg Val Glu Ala Glu Asp Leu Gly
 195 200 205

Val Tyr Tyr Cys Phe Gln Gly Ser His Val Pro Leu Thr Phe Gly Asp
 210 215 220

Gly Thr Lys Leu Glu Leu Lys Arg Ala Ala Ala His His His His His
 225 230 235 240

His Gly Ala Ala Glu Gln Lys Leu Ile Ser Glu Glu Val His Gln
 245 250 255

<210> 46

<211> 257

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
 single chain Fv format

<400> 46

Glu Val Lys Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
 1 5 10 15

Ser Met Lys Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Asp Ala
 20 25 30

Trp Met Asp Trp Val Arg Gln Ser Pro Glu Lys Gly Leu Glu Trp Val
 35 40 45

Ala Glu Ile Arg Ser Lys Ala Asn Asn His Ala Thr Tyr Tyr Ala Glu
 50 55 60

Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Val Ser Lys Ser Ser
 65 70 75 80

Val Tyr Leu Gln Met Asn Asn Leu Arg Ala Glu Asp Thr Gly Ile Tyr
 85 90 95

Tyr Cys Thr Arg Gly Gly Tyr Gly Phe Asp Tyr Trp Gly Gln Gly Thr
 100 105 110

Thr Leu Thr Val Ser Ser Asp Ile Val Leu Thr Gln Thr Pro Leu Ser
 115 120 125

Leu Pro Val Ser Leu Gly Asp Gln Ala Ser Ile Ser Cys Arg Ser Ser
 130 135 140

Gln Ser Ile Val His Ser Asn Gly Asn Thr Tyr Leu Glu Trp Tyr Leu
 145 150 155 160

Gln Lys Pro Gly Gln Ser Pro Lys Leu Leu Ile Tyr Lys Val Ser Asn
 165 170 175

Arg Phe Ser Gly Val Pro Asp Arg Phe Ser Gly Ser Gly Ser Gly Thr
180 185 190

Asp Phe Thr Leu Lys Ile Ser Arg Val Glu Ala Glu Asp Leu Gly Val
195 200 205

Tyr Tyr Cys Phe Gln Gly Ser His Val Pro Leu Thr Phe Gly Asp Gly
210 215 220

Thr Lys Leu Glu Leu Lys Arg Ala Ala Ala His His His His His His
225 230 235 240

Gly Ala Ala Glu Gln Lys Leu Ile Ser Glu Glu Asp Leu Asn Gly Ala
245 250 255

Ala

<210> 47

<211> 256

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
single chain Fv format

<400> 47

Glu Val Lys Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15

Ser Met Lys Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Asp Ala
20 25 30

Trp Met Asp Trp Val Arg Gln Ser Pro Glu Lys Gly Leu Glu Trp Val
35 40 45

Ala Glu Ile Arg Ser Lys Ala Asn Asn His Ala Thr Tyr Tyr Ala Glu
50 55 60

Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Val Ser Lys Ser Ser
65 70 75 80

Val Tyr Leu Gln Met Asn Asn Leu Arg Ala Glu Asp Thr Gly Ile Tyr
85 90 95

Tyr Cys Thr Arg Gly Gly Tyr Gly Phe Asp Tyr Trp Gly Gln Gly Thr
100 105 110

Thr Leu Thr Val Ser Asp Ile Val Leu Thr Gln Thr Pro Leu Ser Leu
115 120 125

Pro Val Ser Leu Gly Asp Gln Ala Ser Ile Ser Cys Arg Ser Ser Gln
130 135 140

Ser Ile Val His Ser Asn Gly Asn Thr Tyr Leu Glu Trp Tyr Leu Gln
145 150 155 160

Lys Pro Gly Gln Ser Pro Lys Leu Leu Ile Tyr Lys Val Ser Asn Arg
 165 170 175

Phe Ser Gly Val Pro Asp Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp
 180 185 190

Phe Thr Leu Lys Ile Ser Arg Val Glu Ala Glu Asp Leu Gly Val Tyr
 195 200 205

Tyr Cys Phe Gln Gly Ser His Val Pro Leu Thr Phe Gly Asp Gly Thr
 210 215 220

Lys Leu Glu Leu Lys Arg Ala Ala Ala His His His His His His Gly
 225 230 235 240

Ala Ala Glu Gln Lys Leu Ile Ser Glu Glu Asp Leu Asn Gly Ala Ala
 245 250 255

<210> 48

<211> 274

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
 single chain Fv format

<400> 48

Glu Val Lys Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
 1 5 10 15

Ser Met Lys Leu Ser Cys Val Ala Ser Gly Phe Thr Phe Ser Asn Tyr
 20 25 30

Trp Met Asn Trp Val Arg Gln Ser Pro Glu Lys Gly Leu Glu Trp Val
 35 40 45

Ala Glu Ile Arg Leu Lys Ser Asn Asn Tyr Thr Thr His Tyr Ala Glu
 50 55 60

Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asp Ser Lys Ser Ser
 65 70 75 80

Val Ser Leu Gln Met Asn Asn Leu Arg Val Glu Asp Thr Gly Ile Tyr
 85 90 95

Tyr Cys Thr Arg His Tyr Tyr Phe Asp Tyr Trp Gly Gln Gly Thr Thr
 100 105 110

Leu Thr Val Ser Ser Ala Ser Ser Gly Gly Gly Gly Ser Gly Gly Gly
 115 120 125

Gly Ser Gly Gly Ser Ala Arg Asp Ile Val Met Thr Gln Ala Ala Phe
 130 135 140

Ser Asn Pro Val Thr Leu Gly Thr Ser Ala Ser Ile Ser Cys Arg Ser
 145 150 155 160
 Ser Lys Ser Leu Leu His Ser Asn Gly Ile Thr Tyr Phe Phe Trp Tyr
 165 170 175
 Leu Gln Lys Pro Gly Leu Ser Pro Gln Leu Leu Ile Tyr Gln Met Ser
 180 185 190
 Asn Leu Ala Ser Gly Val Pro Asp Arg Phe Ser Ser Ser Gly Ser Gly
 195 200 205
 Thr Asp Phe Thr Leu Arg Ile Ser Arg Val Glu Ala Glu Asp Val Gly
 210 215 220
 Val Tyr Tyr Cys Ala Gln Asn Leu Glu Leu Pro Pro Thr Phe Gly Gly
 225 230 235 240
 Gly Thr Lys Leu Glu Ile Lys Arg Ala Ala Ala His His His His His
 245 250 255
 His Gly Ala Ala Glu Gln Lys Leu Ile Ser Glu Glu Asp Leu Asn Gly
 260 265 270

Ala Ala

<210> 49

<211> 265

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
single chain Fv format

<400> 49

Glu Val Lys Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
 1 5 10 15
 Ser Met Lys Leu Ser Cys Val Ala Ser Gly Phe Thr Phe Ser Asn Tyr
 20 25 30
 Trp Met Asn Trp Val Arg Gln Ser Pro Glu Lys Gly Leu Glu Trp Val
 35 40 45
 Ala Glu Ile Arg Leu Lys Ser Asn Asn Tyr Thr Thr His Tyr Ala Glu
 50 55 60
 Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asp Ser Lys Ser Ser
 65 70 75 80
 Val Ser Leu Gln Met Asn Asn Leu Arg Val Glu Asp Thr Gly Ile Tyr
 85 90 95
 Tyr Cys Thr Arg His Tyr Tyr Phe Asp Tyr Trp Gly Gln Gly Thr Thr
 100 105 110

Leu	Thr	Val	Ser	Ser	Ala	Ser	Ser	Gly	Ser	Gly	Ser	Ser	Ala	Asp	Ile
		115						120				125			
Val	Met	Thr	Gln	Ala	Ala	Phe	Ser	Asn	Pro	Val	Thr	Leu	Gly	Thr	Ser
	130					135					140				
Ala	Ser	Ile	Ser	Cys	Arg	Ser	Ser	Lys	Ser	Leu	Leu	His	Ser	Asn	Gly
145					150					155					160
Ile	Thr	Tyr	Phe	Phe	Trp	Tyr	Leu	Gln	Lys	Pro	Gly	Leu	Ser	Pro	Gln
				165					170					175	
Leu	Leu	Ile	Tyr	Gln	Met	Ser	Asn	Leu	Ala	Ser	Gly	Val	Pro	Asp	Arg
			180					185					190		
Phe	Ser	Ser	Ser	Gly	Ser	Gly	Thr	Asp	Phe	Thr	Leu	Arg	Ile	Ser	Arg
		195					200					205			
Val	Glu	Ala	Glu	Asp	Val	Gly	Val	Tyr	Tyr	Cys	Ala	Gln	Asn	Leu	Glu
	210					215					220				
Leu	Pro	Pro	Thr	Phe	Gly	Gly	Gly	Thr	Lys	Leu	Glu	Ile	Lys	Arg	Ala
225					230					235					240
Ala	Ala	His	His	His	His	His	His	Gly	Ala	Ala	Glu	Gln	Lys	Leu	Ile
				245					250					255	
Ser	Glu	Glu	Asp	Leu	Asn	Gly	Ala	Ala							
			260					265							

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<210> 50
<211> 264
<212> PRT
<213> Artificial Sequence
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<220>
<223> Description of Artificial Sequence: Synthetic
single chain Fv format

<400> 50															
Glu	Val	Lys	Leu	Val	Glu	Ser	Gly	Gly	Gly	Leu	Val	Gln	Pro	Gly	Gly
1				5					10					15	
Ser	Met	Lys	Leu	Ser	Cys	Val	Ala	Ser	Gly	Phe	Thr	Phe	Ser	Asn	Tyr
			20					25					30		
Trp	Met	Asn	Trp	Val	Arg	Gln	Ser	Pro	Glu	Lys	Gly	Leu	Glu	Trp	Val
		35					40					45			
Ala	Glu	Ile	Arg	Leu	Lys	Ser	Asn	Asn	Tyr	Thr	Thr	His	Tyr	Ala	Glu
	50					55					60				
Ser	Val	Lys	Gly	Arg	Phe	Thr	Ile	Ser	Arg	Asp	Asp	Ser	Lys	Ser	Ser
65					70					75					80

Val Ser Leu Gln Met Asn Asn Leu Arg Val Glu Asp Thr Gly Ile Tyr
85 90 95

Tyr Cys Thr Arg His Tyr Tyr Phe Asp Tyr Trp Gly Gln Gly Thr Thr
100 105 110

Leu Thr Val Ser Ser Ala Ser Ser Gly Gly Ser Ser Ala Asp Ile Val
115 120 125

Met Thr Gln Ala Ala Phe Ser Asn Pro Val Thr Leu Gly Thr Ser Ala
130 135 140

Ser Ile Ser Cys Arg Ser Ser Lys Ser Leu Leu His Ser Asn Gly Ile
145 150 155 160

Thr Tyr Phe Phe Trp Tyr Leu Gln Lys Pro Gly Leu Ser Pro Gln Leu
165 170 175

Leu Ile Tyr Gln Met Ser Asn Leu Ala Ser Gly Val Pro Asp Arg Phe
180 185 190

Ser Ser Ser Gly Ser Gly Thr Asp Phe Thr Leu Arg Ile Ser Arg Val
195 200 205

Glu Ala Glu Asp Val Gly Val Tyr Tyr Cys Ala Gln Asn Leu Glu Leu
210 215 220

Pro Pro Thr Phe Gly Gly Gly Thr Lys Leu Glu Ile Lys Arg Ala Ala
225 230 235 240

Ala His His His His His His Gly Ala Ala Glu Gln Lys Leu Ile Ser
245 250 255

Glu Glu Asp Leu Asn Gly Ala Ala
260

<210> 51

<211> 263

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
single chain Fv format

<400> 51

Glu Val Lys Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15

Ser Met Lys Leu Ser Cys Val Ala Ser Gly Phe Thr Phe Ser Asn Tyr
20 25 30

Trp Met Asn Trp Val Arg Gln Ser Pro Glu Lys Gly Leu Glu Trp Val
35 40 45

Ala Glu Ile Arg Leu Lys Ser Asn Asn Tyr Thr Thr His Tyr Ala Glu
50 55 60

Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asp Ser Lys Ser Ser
 65 70 75 80
 Val Ser Leu Gln Met Asn Asn Leu Arg Val Glu Asp Thr Gly Ile Tyr
 85 90 95
 Tyr Cys Thr Arg His Tyr Tyr Phe Asp Tyr Trp Gly Gln Gly Thr Thr
 100 105 110
 Leu Thr Val Ser Ser Ala Ser Ser Gly Ser Ser Ala Asp Ile Val Met
 115 120 125
 Thr Gln Ala Ala Phe Ser Asn Pro Val Thr Leu Gly Thr Ser Ala Ser
 130 135 140
 Ile Ser Cys Arg Ser Ser Lys Ser Leu Leu His Ser Asn Gly Ile Thr
 145 150 155 160
 Tyr Phe Phe Trp Tyr Leu Gln Lys Pro Gly Leu Ser Pro Gln Leu Leu
 165 170 175
 Ile Tyr Gln Met Ser Asn Leu Ala Ser Gly Val Pro Asp Arg Phe Ser
 180 185 190
 Ser Ser Gly Ser Gly Thr Asp Phe Thr Leu Arg Ile Ser Arg Val Glu
 195 200 205
 Ala Glu Asp Val Gly Val Tyr Tyr Cys Ala Gln Asn Leu Glu Leu Pro
 210 215 220
 Pro Thr Phe Gly Gly Gly Thr Lys Leu Glu Ile Lys Arg Ala Ala Ala
 225 230 235 240
 His His His His His His Gly Ala Ala Glu Gln Lys Leu Ile Ser Glu
 245 250 255
 Glu Asp Leu Asn Gly Ala Ala
 260

<210> 52
 <211> 262
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: Synthetic
 single chain Fv format

<400> 52
 Glu Val Lys Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
 1 5 10 15
 Ser Met Lys Leu Ser Cys Val Ala Ser Gly Phe Thr Phe Ser Asn Tyr
 20 25 30

Trp Met Asn Trp Val Arg Gln Ser Pro Glu Lys Gly Leu Glu Trp Val
 35 40 45
 Ala Glu Ile Arg Leu Lys Ser Asn Asn Tyr Thr Thr His Tyr Ala Glu
 50 55 60
 Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asp Ser Lys Ser Ser
 65 70 75 80
 Val Ser Leu Gln Met Asn Asn Leu Arg Val Glu Asp Thr Gly Ile Tyr
 85 90 95
 Tyr Cys Thr Arg His Tyr Tyr Phe Asp Tyr Trp Gly Gln Gly Thr Thr
 100 105 110
 Leu Thr Val Ser Ser Ala Ser Ser Ser Ser Ala Asp Ile Val Met Thr
 115 120 125
 Gln Ala Ala Phe Ser Asn Pro Val Thr Leu Gly Thr Ser Ala Ser Ile
 130 135 140
 Ser Cys Arg Ser Ser Lys Ser Leu Leu His Ser Asn Gly Ile Thr Tyr
 145 150 155 160
 Phe Phe Trp Tyr Leu Gln Lys Pro Gly Leu Ser Pro Gln Leu Leu Ile
 165 170 175
 Tyr Gln Met Ser Asn Leu Ala Ser Gly Val Pro Asp Arg Phe Ser Ser
 180 185 190
 Ser Gly Ser Gly Thr Asp Phe Thr Leu Arg Ile Ser Arg Val Glu Ala
 195 200 205
 Glu Asp Val Gly Val Tyr Tyr Cys Ala Gln Asn Leu Glu Leu Pro Pro
 210 215 220
 Thr Phe Gly Gly Gly Thr Lys Leu Glu Ile Lys Arg Ala Ala Ala His
 225 230 235 240
 His His His His His Gly Ala Ala Glu Gln Lys Leu Ile Ser Glu Glu
 245 250 255
 Asp Leu Asn Gly Ala Ala
 260

<210> 53

<211> 261

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
single chain Fv format

<400> 53

Glu Val Lys Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
 1 5 10 15

Ser Met Lys Leu Ser Cys Val Ala Ser Gly Phe Thr Phe Ser Asn Tyr
 20 25 30
 Trp Met Asn Trp Val Arg Gln Ser Pro Glu Lys Gly Leu Glu Trp Val
 35 40 45
 Ala Glu Ile Arg Leu Lys Ser Asn Asn Tyr Thr Thr His Tyr Ala Glu
 50 55 60
 Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asp Ser Lys Ser Ser
 65 70 75 80
 Val Ser Leu Gln Met Asn Asn Leu Arg Val Glu Asp Thr Gly Ile Tyr
 85 90 95
 Tyr Cys Thr Arg His Tyr Tyr Phe Asp Tyr Trp Gly Gln Gly Thr Thr
 100 105 110
 Leu Thr Val Ser Ser Ala Ser Ser Ser Ala Asp Ile Val Met Thr Gln
 115 120 125
 Ala Ala Phe Ser Asn Pro Val Thr Leu Gly Thr Ser Ala Ser Ile Ser
 130 135 140
 Cys Arg Ser Ser Lys Ser Leu Leu His Ser Asn Gly Ile Thr Tyr Phe
 145 150 155 160
 Phe Trp Tyr Leu Gln Lys Pro Gly Leu Ser Pro Gln Leu Leu Ile Tyr
 165 170 175
 Gln Met Ser Asn Leu Ala Ser Gly Val Pro Asp Arg Phe Ser Ser Ser
 180 185 190
 Gly Ser Gly Thr Asp Phe Thr Leu Arg Ile Ser Arg Val Glu Ala Glu
 195 200 205
 Asp Val Gly Val Tyr Tyr Cys Ala Gln Asn Leu Glu Leu Pro Pro Thr
 210 215 220
 Phe Gly Gly Gly Thr Lys Leu Glu Ile Lys Arg Ala Ala Ala His His
 225 230 235 240
 His His His His Gly Ala Ala Glu Gln Lys Leu Ile Ser Glu Glu Asp
 245 250 255
 Leu Asn Gly Ala Ala
 260

<210> 54

<211> 260

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
single chain Fv format

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<210> 55
<211> 259
<212> PRT
<213> Artificial Sequence
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<220>

<223> Description of Artificial Sequence: Synthetic
single chain Fv format

<400> 55

Glu	Val	Lys	Leu	Val	Glu	Ser	Gly	Gly	Gly	Leu	Val	Gln	Pro	Gly	Gly
1				5					10					15	

Ser	Met	Lys	Leu	Ser	Cys	Val	Ala	Ser	Gly	Phe	Thr	Phe	Ser	Asn	Tyr
			20					25					30		

Trp	Met	Asn	Trp	Val	Arg	Gln	Ser	Pro	Glu	Lys	Gly	Leu	Glu	Trp	Val
		35					40					45			

Ala	Glu	Ile	Arg	Leu	Lys	Ser	Asn	Asn	Tyr	Thr	Thr	His	Tyr	Ala	Glu
	50					55					60				

Ser	Val	Lys	Gly	Arg	Phe	Thr	Ile	Ser	Arg	Asp	Asp	Ser	Lys	Ser	Ser
65					70					75					80

Val	Ser	Leu	Gln	Met	Asn	Asn	Leu	Arg	Val	Glu	Asp	Thr	Gly	Ile	Tyr
				85					90					95	

Tyr	Cys	Thr	Arg	His	Tyr	Tyr	Phe	Asp	Tyr	Trp	Gly	Gln	Gly	Thr	Thr
			100					105					110		

Leu	Thr	Val	Ser	Ser	Ala	Ser	Ala	Asp	Ile	Val	Met	Thr	Gln	Ala	Ala
		115					120					125			

Phe	Ser	Asn	Pro	Val	Thr	Leu	Gly	Thr	Ser	Ala	Ser	Ile	Ser	Cys	Arg
	130						135				140				

Ser	Ser	Lys	Ser	Leu	Leu	His	Ser	Asn	Gly	Ile	Thr	Tyr	Phe	Phe	Trp
145					150					155					160

Tyr	Leu	Gln	Lys	Pro	Gly	Leu	Ser	Pro	Gln	Leu	Leu	Ile	Tyr	Gln	Met
				165					170					175	

Ser	Asn	Leu	Ala	Ser	Gly	Val	Pro	Asp	Arg	Phe	Ser	Ser	Ser	Gly	Ser
			180					185					190		

Gly	Thr	Asp	Phe	Thr	Leu	Arg	Ile	Ser	Arg	Val	Glu	Ala	Glu	Asp	Val
		195					200					205			

Gly	Val	Tyr	Tyr	Cys	Ala	Gln	Asn	Leu	Glu	Leu	Pro	Pro	Thr	Phe	Gly
	210					215					220				

Gly	Gly	Thr	Lys	Leu	Glu	Ile	Lys	Arg	Ala	Ala	Ala	His	His	His	His
225					230					235					240

His	His	Gly	Ala	Ala	Glu	Gln	Lys	Leu	Ile	Ser	Glu	Glu	Asp	Leu	Asn
				245					250					255	

Gly Ala Ala

<210> 56
 <211> 258
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: Synthetic
 single chain Fv format

<400> 56
 Glu Val Lys Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
 1 5 10 15
 Ser Met Lys Leu Ser Cys Val Ala Ser Gly Phe Thr Phe Ser Asn Tyr
 20 25 30
 Trp Met Asn Trp Val Arg Gln Ser Pro Glu Lys Gly Leu Glu Trp Val
 35 40 45
 Ala Glu Ile Arg Leu Lys Ser Asn Asn Tyr Thr Thr His Tyr Ala Glu
 50 55 60
 Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asp Ser Lys Ser Ser
 65 70 75 80
 Val Ser Leu Gln Met Asn Asn Leu Arg Val Glu Asp Thr Gly Ile Tyr
 85 90 95
 Tyr Cys Thr Arg His Tyr Tyr Phe Asp Tyr Trp Gly Gln Gly Thr Thr
 100 105 110
 Leu Thr Val Ser Ser Ala Ala Asp Ile Val Met Thr Gln Ala Ala Phe
 115 120 125
 Ser Asn Pro Val Thr Leu Gly Thr Ser Ala Ser Ile Ser Cys Arg Ser
 130 135 140
 Ser Lys Ser Leu Leu His Ser Asn Gly Ile Thr Tyr Phe Phe Trp Tyr
 145 150 155 160
 Leu Gln Lys Pro Gly Leu Ser Pro Gln Leu Leu Ile Tyr Gln Met Ser
 165 170 175
 Asn Leu Ala Ser Gly Val Pro Asp Arg Phe Ser Ser Ser Gly Ser Gly
 180 185 190
 Thr Asp Phe Thr Leu Arg Ile Ser Arg Val Glu Ala Glu Asp Val Gly
 195 200 205
 Val Tyr Tyr Cys Ala Gln Asn Leu Glu Leu Pro Pro Thr Phe Gly Gly
 210 215 220
 Gly Thr Lys Leu Glu Ile Lys Arg Ala Ala Ala His His His His His
 225 230 235 240
 His Gly Ala Ala Glu Gln Lys Leu Ile Ser Glu Glu Asp Leu Asn Gly
 245 250 255

Ala Ala

<210> 57

<211> 257

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
single chain Fv format

<400> 57

Glu	Val	Lys	Leu	Val	Glu	Ser	Gly	Gly	Gly	Leu	Val	Gln	Pro	Gly	Gly				
1				5					10					15					
Ser	Met	Lys	Leu	Ser	Cys	Val	Ala	Ser	Gly	Phe	Thr	Phe	Ser	Asn	Tyr				
			20					25					30						
Trp	Met	Asn	Trp	Val	Arg	Gln	Ser	Pro	Glu	Lys	Gly	Leu	Glu	Trp	Val				
		35				40						45							
Ala	Glu	Ile	Arg	Leu	Lys	Ser	Asn	Asn	Tyr	Thr	Thr	His	Tyr	Ala	Glu				
	50				55						60								
Ser	Val	Lys	Gly	Arg	Phe	Thr	Ile	Ser	Arg	Asp	Asp	Ser	Lys	Ser	Ser				
65				70					75						80				
Val	Ser	Leu	Gln	Met	Asn	Asn	Leu	Arg	Val	Glu	Asp	Thr	Gly	Ile	Tyr				
			85					90						95					
Tyr	Cys	Thr	Arg	His	Tyr	Tyr	Phe	Asp	Tyr	Trp	Gly	Gln	Gly	Thr	Thr				
			100					105					110						
Leu	Thr	Val	Ser	Ser	Ala	Asp	Ile	Val	Met	Thr	Gln	Ala	Ala	Phe	Ser				
		115					120					125							
Asn	Pro	Val	Thr	Leu	Gly	Thr	Ser	Ala	Ser	Ile	Ser	Cys	Arg	Ser	Ser				
	130					135					140								
Lys	Ser	Leu	Leu	His	Ser	Asn	Gly	Ile	Thr	Tyr	Phe	Phe	Trp	Tyr	Leu				
145				150					155						160				
Gln	Lys	Pro	Gly	Leu	Ser	Pro	Gln	Leu	Leu	Ile	Tyr	Gln	Met	Ser	Asn				
			165					170						175					
Leu	Ala	Ser	Gly	Val	Pro	Asp	Arg	Phe	Ser	Ser	Ser	Gly	Ser	Gly	Thr				
		180					185						190						
Asp	Phe	Thr	Leu	Arg	Ile	Ser	Arg	Val	Glu	Ala	Glu	Asp	Val	Gly	Val				
		195				200						205							
Tyr	Tyr	Cys	Ala	Gln	Asn	Leu	Glu	Leu	Pro	Pro	Thr	Phe	Gly	Gly	Gly				
	210				215						220								
Thr	Lys	Leu	Glu	Ile	Lys	Arg	Ala	Ala	Ala	His	His	His	His	His	His				
225				230						235					240				

Gly Ala Ala Glu Gln Lys Leu Ile Ser Glu Glu Asp Leu Asn Gly Ala
 245 250 255

Ala

<210> 58

<211> 256

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
 single chain Fv format

<400> 58

Glu Val Lys Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
 1 5 10 15

Ser Met Lys Leu Ser Cys Val Ala Ser Gly Phe Thr Phe Ser Asn Tyr
 20 25 30

Trp Met Asn Trp Val Arg Gln Ser Pro Glu Lys Gly Leu Glu Trp Val
 35 40 45

Ala Glu Ile Arg Leu Lys Ser Asn Asn Tyr Thr Thr His Tyr Ala Glu
 50 55 60

Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asp Ser Lys Ser Ser
 65 70 75 80

Val Ser Leu Gln Met Asn Asn Leu Arg Val Glu Asp Thr Gly Ile Tyr
 85 90 95

Tyr Cys Thr Arg His Tyr Tyr Phe Asp Tyr Trp Gly Gln Gly Thr Thr
 100 105 110

Leu Thr Val Ser Ser Asp Ile Val Met Thr Gln Ala Ala Phe Ser Asn
 115 120 125

Pro Val Thr Leu Gly Thr Ser Ala Ser Ile Ser Cys Arg Ser Ser Lys
 130 135 140

Ser Leu Leu His Ser Asn Gly Ile Thr Tyr Phe Phe Trp Tyr Leu Gln
 145 150 155 160

Lys Pro Gly Leu Ser Pro Gln Leu Leu Ile Tyr Gln Met Ser Asn Leu
 165 170 175

Ala Ser Gly Val Pro Asp Arg Phe Ser Ser Ser Gly Ser Gly Thr Asp
 180 185 190

Phe Thr Leu Arg Ile Ser Arg Val Glu Ala Glu Asp Val Gly Val Tyr
 195 200 205

Tyr Cys Ala Gln Asn Leu Glu Leu Pro Pro Thr Phe Gly Gly Gly Thr
 210 215 220

Lys Leu Glu Ile Lys Arg Ala Ala Ala His His His His His His Gly
 225 230 235 240

Ala Ala Glu Gln Lys Leu Ile Ser Glu Glu Asp Leu Asn Gly Ala Ala
 245 250 255

<210> 59

<211> 255

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
 single chain Fv format

<400> 59

Glu Val Lys Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
 1 5 10 15

Ser Met Lys Leu Ser Cys Val Ala Ser Gly Phe Thr Phe Ser Asn Tyr
 20 25 30

Trp Met Asn Trp Val Arg Gln Ser Pro Glu Lys Gly Leu Glu Trp Val
 35 40 45

Ala Glu Ile Arg Leu Lys Ser Asn Asn Tyr Thr Thr His Tyr Ala Glu
 50 55 60

Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asp Ser Lys Ser Ser
 65 70 75 80

Val Ser Leu Gln Met Asn Asn Leu Arg Val Glu Asp Thr Gly Ile Tyr
 85 90 95

Tyr Cys Thr Arg His Tyr Tyr Phe Asp Tyr Trp Gly Gln Gly Thr Thr
 100 105 110

Leu Thr Val Ser Asp Ile Val Met Thr Gln Ala Ala Phe Ser Asn Pro
 115 120 125

Val Thr Leu Gly Thr Ser Ala Ser Ile Ser Cys Arg Ser Ser Lys Ser
 130 135 140

Leu Leu His Ser Asn Gly Ile Thr Tyr Phe Phe Trp Tyr Leu Gln Lys
 145 150 155 160

Pro Gly Leu Ser Pro Gln Leu Leu Ile Tyr Gln Met Ser Asn Leu Ala
 165 170 175

Ser Gly Val Pro Asp Arg Phe Ser Ser Ser Gly Ser Gly Thr Asp Phe
 180 185 190

Thr Leu Arg Ile Ser Arg Val Glu Ala Glu Asp Val Gly Val Tyr Tyr
 195 200 205

Cys Ala Gln Asn Leu Glu Leu Pro Pro Thr Phe Gly Gly Gly Thr Lys
 210 215 220

Leu Glu Ile Lys Arg Ala Ala Ala His His His His His His Gly Ala
 225 230 235 240

Ala Glu Gln Lys Leu Ile Ser Glu Glu Asp Leu Asn Gly Ala Ala
 245 250 255

<210> 60

<211> 219

<212> PRT

<213> Mus musculus

<400> 60

Asp Ile Val Leu Thr Gln Thr Pro Leu Ser Leu Pro Val Ser Leu Gly
 1 5 10 15

Asp Gln Ala Ser Ile Ser Cys Arg Ser Ser Gln Ser Ile Val His Ser
 20 25 30

Asn Gly Asn Thr Tyr Leu Glu Trp Tyr Leu Gln Lys Pro Gly Gln Ser
 35 40 45

Pro Lys Leu Leu Ile Tyr Lys Val Ser Asn Arg Phe Ser Gly Val Pro
 50 55 60

Asp Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Lys Ile
 65 70 75 80

Ser Arg Val Glu Ala Glu Asp Leu Gly Val Tyr Tyr Cys Phe Gln Gly
 85 90 95

Ser His Val Pro Leu Thr Phe Gly Asp Gly Thr Lys Leu Glu Leu Lys
 100 105 110

Arg Ala Asp Ala Ala Pro Thr Val Ser Ile Phe Pro Pro Ser Ser Glu
 115 120 125

Gln Leu Thr Ser Gly Gly Ala Ser Val Val Cys Phe Leu Asn Asn Phe
 130 135 140

Tyr Pro Lys Asp Ile Asn Val Lys Trp Lys Ile Asp Gly Ser Glu Arg
 145 150 155 160

Gln Asn Gly Val Leu Asn Ser Trp Thr Asp Gln Asp Ser Lys Asp Ser
 165 170 175

Thr Tyr Ser Met Ser Ser Thr Leu Thr Leu Thr Lys Asp Glu Tyr Glu
 180 185 190

Arg His Asn Ser Tyr Thr Cys Glu Ala Thr His Lys Thr Ser Thr Ser
 195 200 205

Pro Ile Val Lys Ser Phe Asn Arg Asn Glu Cys
 210 215

<210> 61
 <211> 219
 <212> PRT
 <213> Mus musculus

<400> 61
 Asp Ile Val Met Thr Gln Ala Ala Phe Ser Asn Pro Val Thr Leu Gly
 1 5 10 15
 Thr Ser Ala Ser Ile Ser Cys Arg Ser Ser Lys Ser Leu Leu His Ser
 20 25 30
 Asn Gly Ile Thr Tyr Phe Phe Trp Tyr Leu Gln Lys Pro Gly Leu Ser
 35 40 45
 Pro Gln Leu Leu Ile Tyr Gln Met Ser Asn Leu Ala Ser Gly Val Pro
 50 55 60
 Asp Arg Phe Ser Ser Ser Gly Ser Gly Thr Asp Phe Thr Leu Arg Ile
 65 70 75 80
 Ser Arg Val Glu Ala Glu Asp Val Gly Val Tyr Tyr Cys Ala Gln Asn
 85 90 95
 Leu Glu Leu Pro Pro Thr Phe Gly Gly Gly Thr Lys Leu Glu Ile Lys
 100 105 110
 Arg Ala Asp Ala Ala Pro Thr Val Ser Ile Phe Pro Pro Ser Ser Glu
 115 120 125
 Gln Leu Thr Ser Gly Gly Ala Ser Val Val Cys Phe Leu Asn Asn Phe
 130 135 140
 Tyr Pro Lys Asp Ile Asn Val Lys Trp Lys Ile Asp Gly Ser Glu Arg
 145 150 155 160
 Gln Asn Gly Val Leu Asn Ser Trp Thr Asp Gln Asp Ser Lys Asp Ser
 165 170 175
 Thr Tyr Ser Met Ser Ser Thr Leu Thr Leu Thr Lys Asp Glu Tyr Glu
 180 185 190
 Arg His Asn Ser Tyr Thr Cys Glu Ala Thr His Lys Thr Ser Thr Ser
 195 200 205
 Pro Ile Val Lys Ser Phe Asn Arg Asn Glu Cys
 210 215

<210> 62
 <211> 441
 <212> PRT
 <213> Mus musculus

<400> 62

Glu	Val	Lys	Leu	Val	Glu	Ser	Gly	Gly	Gly	Leu	Val	Gln	Pro	Gly	Gly		
1				5					10					15			
Ser	Met	Lys	Leu	Ser	Cys	Ala	Ala	Ser	Gly	Phe	Thr	Phe	Ser	Asp	Ala		
			20					25					30				
Trp	Met	Asp	Trp	Val	Arg	Gln	Ser	Pro	Glu	Lys	Gly	Leu	Glu	Trp	Val		
		35					40					45					
Ala	Glu	Ile	Arg	Ser	Lys	Ala	Asn	Asn	His	Ala	Thr	Tyr	Tyr	Ala	Glu		
	50					55					60						
Ser	Val	Lys	Gly	Arg	Phe	Thr	Ile	Ser	Arg	Asp	Val	Ser	Lys	Ser	Ser		
65					70					75					80		
Val	Tyr	Leu	Gln	Met	Asn	Asn	Leu	Arg	Ala	Glu	Asp	Thr	Gly	Ile	Tyr		
				85					90					95			
Tyr	Cys	Thr	Arg	Gly	Gly	Tyr	Gly	Phe	Asp	Tyr	Trp	Gly	Gln	Gly	Thr		
			100					105					110				
Thr	Leu	Thr	Val	Ser	Ala	Lys	Thr	Thr	Pro	Pro	Ser	Val	Tyr	Pro	Leu		
		115					120					125					
Ala	Pro	Gly	Ser	Ala	Ala	Gln	Thr	Asn	Ser	Met	Val	Thr	Leu	Gly	Cys		
	130					135					140						
Leu	Val	Lys	Gly	Tyr	Phe	Pro	Glu	Pro	Val	Thr	Val	Thr	Trp	Asn	Ser		
145					150					155					160		
Gly	Ser	Leu	Ser	Ser	Gly	Val	His	Thr	Phe	Pro	Ala	Val	Leu	Glu	Ser		
				165					170					175			
Asp	Leu	Tyr	Thr	Leu	Ser	Ser	Ser	Val	Thr	Val	Pro	Ser	Ser	Pro	Arg		
			180					185					190				
Pro	Ser	Glu	Thr	Val	Thr	Cys	Asn	Val	Ala	His	Pro	Ala	Ser	Ser	Thr		
		195					200					205					
Lys	Val	Asp	Lys	Lys	Ile	Val	Pro	Arg	Asp	Cys	Gly	Cys	Lys	Pro	Cys		
	210					215					220						
Ile	Cys	Thr	Val	Pro	Glu	Val	Ser	Ser	Val	Phe	Ile	Phe	Pro	Pro	Lys		
225					230					235					240		
Pro	Lys	Asp	Val	Leu	Thr	Ile	Thr	Leu	Thr	Pro	Lys	Val	Thr	Cys	Val		
				245					250					255			
Val	Val	Asp	Ile	Ser	Lys	Asp	Asp	Pro	Glu	Val	Gln	Phe	Ser	Trp	Phe		
			260					265					270				
Val	Asp	Asp	Val	Glu	Val	His	Thr	Ala	Gln	Thr	Gln	Pro	Arg	Glu	Glu		
		275					280					285					
Gln	Phe	Asn	Ser	Thr	Phe	Arg	Ser	Val	Ser	Glu	Leu	Pro	Ile	Met	His		
	290					295					300						

Gln Asp Trp Leu Asn Gly Lys Glu Phe Lys Cys Arg Val Asn Ser Ala
 305 310 315 320
 Ala Phe Pro Ala Pro Ile Glu Lys Thr Ile Ser Lys Thr Lys Gly Arg
 325 330 335
 Pro Lys Ala Pro Gln Val Tyr Thr Ile Pro Pro Pro Lys Glu Gln Met
 340 345 350
 Ala Lys Asp Lys Val Ser Leu Thr Cys Met Ile Thr Asp Phe Phe Pro
 355 360 365
 Glu Asp Ile Thr Val Glu Trp Gln Trp Asn Gly Gln Pro Ala Glu Asn
 370 375 380
 Tyr Lys Asn Thr Gln Pro Ile Met Asn Thr Asn Gly Ser Tyr Phe Val
 385 390 395 400
 Tyr Ser Lys Leu Asn Val Gln Lys Ser Asn Trp Glu Ala Gly Asn Thr
 405 410 415
 Phe Thr Cys Ser Val Leu His Glu Gly Leu His Asn His His Thr Glu
 420 425 430
 Lys Ser Leu Ser His Ser Pro Gly Lys
 435 440

<210> 63
 <211> 440
 <212> PRT
 <213> Mus musculus

<400> 63
 Glu Val Lys Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
 1 5 10 15
 Ser Met Lys Leu Ser Cys Val Ala Ser Gly Phe Thr Phe Ser Asn Tyr
 20 25 30
 Trp Met Asn Trp Val Arg Gln Ser Pro Glu Lys Gly Leu Glu Trp Val
 35 40 45
 Ala Glu Ile Arg Leu Lys Ser Asn Asn Tyr Thr Thr His Tyr Ala Glu
 50 55 60
 Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asp Ser Lys Ser Ser
 65 70 75 80
 Val Ser Leu Gln Met Asn Asn Leu Arg Val Glu Asp Thr Gly Ile Tyr
 85 90 95
 Tyr Cys Thr Arg His Tyr Tyr Phe Asp Tyr Trp Gly Gln Gly Thr Thr
 100 105 110
 Leu Thr Val Ser Ala Lys Thr Thr Pro Pro Ser Val Tyr Pro Leu Ala
 115 120 125

Pro	Gly	Ser	Ala	Ala	Gln	Thr	Asn	Ser	Met	Val	Thr	Leu	Gly	Cys	Leu	130	135	140	
Val	Lys	Gly	Tyr	Phe	Pro	Glu	Pro	Val	Thr	Val	Thr	Trp	Asn	Ser	Gly	145	150	155	160
Ser	Leu	Ser	Ser	Gly	Val	His	Thr	Phe	Pro	Ala	Val	Leu	Glu	Ser	Asp	165	170	175	
Leu	Tyr	Thr	Leu	Ser	Ser	Ser	Val	Thr	Val	Pro	Ser	Ser	Pro	Arg	Pro	180	185	190	
Ser	Glu	Thr	Val	Thr	Cys	Asn	Val	Ala	His	Pro	Ala	Ser	Ser	Thr	Lys	195	200	205	
Val	Asp	Lys	Lys	Ile	Val	Pro	Arg	Asp	Cys	Gly	Cys	Lys	Pro	Cys	Ile	210	215	220	
Cys	Thr	Val	Pro	Glu	Val	Ser	Ser	Val	Phe	Ile	Phe	Pro	Pro	Lys	Pro	225	230	235	240
Lys	Asp	Val	Leu	Thr	Ile	Thr	Leu	Thr	Pro	Lys	Val	Thr	Cys	Val	Val	245	250	255	
Val	Asp	Ile	Ser	Lys	Asp	Asp	Pro	Glu	Val	Gln	Phe	Ser	Trp	Phe	Val	260	265	270	
Asp	Asp	Val	Glu	Val	His	Thr	Ala	Gln	Thr	Gln	Pro	Arg	Glu	Glu	Gln	275	280	285	
Phe	Asn	Ser	Thr	Phe	Arg	Ser	Val	Ser	Glu	Leu	Pro	Ile	Met	His	Gln	290	295	300	
Asp	Trp	Leu	Asn	Gly	Lys	Glu	Phe	Lys	Cys	Arg	Val	Asn	Ser	Ala	Ala	305	310	315	320
Phe	Pro	Ala	Pro	Ile	Glu	Lys	Thr	Ile	Ser	Lys	Thr	Lys	Gly	Arg	Pro	325	330	335	
Lys	Ala	Pro	Gln	Val	Tyr	Thr	Ile	Pro	Pro	Pro	Lys	Glu	Gln	Met	Ala	340	345	350	
Lys	Asp	Lys	Val	Ser	Leu	Thr	Cys	Met	Ile	Thr	Asp	Phe	Phe	Pro	Glu	355	360	365	
Asp	Ile	Thr	Val	Glu	Trp	Gln	Trp	Asn	Gly	Gln	Pro	Ala	Glu	Asn	Tyr	370	375	380	
Lys	Asn	Thr	Gln	Pro	Ile	Met	Asn	Thr	Asn	Gly	Ser	Tyr	Phe	Val	Tyr	385	390	395	400
Ser	Lys	Leu	Asn	Val	Gln	Lys	Ser	Asn	Trp	Glu	Ala	Gly	Asn	Thr	Phe	405	410	415	
Thr	Cys	Ser	Val	Leu	His	Glu	Gly	Leu	His	Asn	His	His	Thr	Glu	Lys	420	425	430	

Ser Leu Ser His Ser Pro Gly Lys
 435 440

<210> 64
 <211> 447
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: Synthetic
 mouse/human chimeric heavy chain

<400> 64
 Glu Val Lys Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
 1 5 10 15
 Ser Met Lys Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Asp Ala
 20 25 30
 Trp Met Asp Trp Val Arg Gln Ser Pro Glu Lys Gly Leu Glu Trp Val
 35 40 45
 Ala Glu Ile Arg Ser Lys Ala Asn Asn His Ala Thr Tyr Tyr Ala Glu
 50 55 60
 Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Val Ser Lys Ser Ser
 65 70 75 80
 Val Tyr Leu Gln Met Asn Asn Leu Arg Ala Glu Asp Thr Gly Ile Tyr
 85 90 95
 Tyr Cys Thr Arg Gly Gly Tyr Gly Phe Asp Tyr Trp Gly Gln Gly Thr
 100 105 110
 Thr Leu Thr Val Ser Gly Ser Thr Lys Gly Pro Ser Val Phe Pro Leu
 115 120 125
 Ala Pro Ser Ser Lys Ser Thr Ser Gly Gly Thr Ala Ala Leu Gly Cys
 130 135 140
 Leu Val Lys Asp Tyr Phe Pro Glu Pro Val Thr Val Ser Trp Asn Ser
 145 150 155 160
 Gly Ala Leu Thr Ser Gly Val His Thr Phe Pro Ala Val Leu Gln Ser
 165 170 175
 Ser Gly Leu Tyr Ser Leu Ser Ser Val Val Thr Val Pro Ser Ser Ser
 180 185 190
 Leu Gly Thr Gln Thr Tyr Ile Cys Asn Val Asn His Lys Pro Ser Asn
 195 200 205
 Thr Lys Val Asp Lys Lys Val Glu Pro Lys Ser Cys Asp Lys Thr His
 210 215 220
 Thr Cys Pro Pro Cys Pro Ala Pro Glu Leu Leu Gly Gly Pro Ser Val
 225 230 235 240

Phe	Leu	Phe	Pro	Pro 245	Lys	Pro	Lys	Asp	Thr 250	Leu	Met	Ile	Ser	Arg 255	Thr
Pro	Glu	Val	Thr 260	Cys	Val	Val	Val	Asp 265	Val	Ser	His	Glu	Asp 270	Pro	Glu
Val	Lys	Phe 275	Asn	Trp	Tyr	Val	Asp 280	Gly	Val	Glu	Val	His 285	Asn	Ala	Lys
Thr	Lys 290	Pro	Arg	Glu	Glu	Gln 295	Tyr	Asn	Ser	Thr	Tyr 300	Arg	Val	Val	Ser
Val 305	Leu	Thr	Val	Leu	His 310	Gln	Asp	Trp	Leu	Asn 315	Gly	Lys	Glu	Tyr	Lys 320
Cys	Lys	Val	Ser	Asn 325	Lys	Ala	Leu	Pro	Ala 330	Pro	Ile	Glu	Lys	Thr 335	Ile
Ser	Lys	Ala	Lys 340	Gly	Gln	Pro	Arg	Glu 345	Pro	Gln	Val	Tyr	Thr 350	Leu	Pro
Pro	Ser	Arg 355	Asp	Glu	Leu	Thr	Lys 360	Asn	Gln	Val	Ser	Leu 365	Thr	Cys	Leu
Val 370	Lys	Gly	Phe	Tyr	Pro	Ser 375	Asp	Ile	Ala	Val	Glu 380	Trp	Glu	Ser	Asn
Gly 385	Gln	Pro	Glu	Asn 390	Asn	Tyr	Lys	Thr	Thr	Pro 395	Pro	Val	Leu	Asp	Ser 400
Asp	Gly	Ser	Phe	Phe 405	Leu	Tyr	Ser	Lys	Leu 410	Thr	Val	Asp	Lys	Ser 415	Arg
Trp	Gln	Gln	Gly 420	Asn	Val	Phe	Ser	Cys 425	Ser	Val	Met	His	Glu 430	Ala	Leu
His	Asn 435	His	Tyr	Thr	Gln	Lys	Ser 440	Leu	Ser	Leu	Ser	Pro 445	Gly	Lys	

<210> 65

$\langle 211 \rangle$ 446

<212> PRT

<213> Artificial Sequence

 $\langle 220 \rangle$

<223> Description of Artificial Sequence: Synthetic mouse/human chimeric heavy chain

<400> 65

Glu Val Lys Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15

Ser Met Lys Leu Ser Cys Val Ala Ser Gly Phe Thr Phe Ser Asn Tyr
20 25 30

Trp	Met	Asn	Trp	Val	Arg	Gln	Ser	Pro	Glu	Lys	Gly	Leu	Glu	Trp	Val
		35					40					45			
Ala	Glu	Ile	Arg	Leu	Lys	Ser	Asn	Asn	Tyr	Thr	Thr	His	Tyr	Ala	Glu
	50					55					60				
Ser	Val	Lys	Gly	Arg	Phe	Thr	Ile	Ser	Arg	Asp	Asp	Ser	Lys	Ser	Ser
65					70					75					80
Val	Ser	Leu	Gln	Met	Asn	Asn	Leu	Arg	Val	Glu	Asp	Thr	Gly	Ile	Trp
				85					90					95	
Tyr	Cys	Thr	Arg	His	Tyr	Tyr	Phe	Asp	Tyr	Trp	Gly	Gln	Gly	Thr	Thr
			100					105					110		
Leu	Thr	Val	Ser	Gly	Ser	Thr	Lys	Gly	Pro	Ser	Val	Phe	Pro	Leu	Ala
		115					120					125			
Pro	Ser	Ser	Lys	Ser	Thr	Ser	Gly	Gly	Thr	Ala	Ala	Leu	Gly	Cys	Leu
						135					140				
Val	Lys	Asp	Tyr	Phe	Pro	Glu	Pro	Val	Thr	Val	Ser	Trp	Asn	Ser	Gly
145					150					155					160
Ala	Leu	Thr	Ser	Gly	Val	His	Thr	Phe	Pro	Ala	Val	Leu	Gln	Ser	Ser
				165					170					175	
Gly	Leu	Tyr	Ser	Leu	Ser	Ser	Val	Val	Thr	Val	Pro	Ser	Ser	Ser	Leu
			180					185					190		
Gly	Thr	Gln	Thr	Tyr	Ile	Cys	Asn	Val	Asn	His	Lys	Pro	Ser	Asn	Thr
		195					200					205			
Lys	Val	Asp	Lys	Lys	Val	Glu	Pro	Lys	Ser	Cys	Asp	Lys	Thr	His	Thr
		210				215					220				
Cys	Pro	Pro	Cys	Pro	Ala	Pro	Glu	Leu	Leu	Gly	Gly	Pro	Ser	Val	Phe
225					230					235					240
Leu	Phe	Pro	Pro	Lys	Pro	Lys	Asp	Thr	Leu	Met	Ile	Ser	Arg	Thr	Pro
				245					250					255	
Glu	Val	Thr	Cys	Val	Val	Val	Asp	Val	Ser	His	Glu	Asp	Pro	Glu	Val
			260					265					270		
Lys	Phe	Asn	Trp	Tyr	Val	Asp	Gly	Val	Glu	Val	His	Asn	Ala	Lys	Thr
		275					280					285			
Lys	Pro	Arg	Glu	Glu	Gln	Tyr	Asn	Ser	Thr	Tyr	Arg	Val	Val	Ser	Val
		290				295					300				
Leu	Thr	Val	Leu	His	Gln	Asp	Trp	Leu	Asn	Gly	Lys	Glu	Tyr	Lys	Cys
305					310					315					320
Lys	Val	Ser	Asn	Lys	Ala	Leu	Pro	Ala	Pro	Ile	Glu	Lys	Thr	Ile	Ser
				325					330					335	

Lys Ala Lys Gly Gln Pro Arg Glu Pro Gln Val Tyr Thr Leu Pro Pro
 340 345 350
 Ser Arg Asp Glu Leu Thr Lys Asn Gln Val Ser Leu Thr Cys Leu Val
 355 360 365
 Lys Gly Phe Tyr Pro Ser Asp Ile Ala Val Glu Trp Glu Ser Asn Gly
 370 375 380
 Gln Pro Glu Asn Asn Tyr Lys Thr Thr Pro Pro Val Leu Asp Ser Asp
 385 390 395 400
 Gly Ser Phe Phe Leu Tyr Ser Lys Leu Thr Val Asp Lys Ser Arg Trp
 405 410 415
 Gln Gln Gly Asn Val Phe Ser Cys Ser Val Met His Glu Ala Leu His
 420 425 430
 Asn His Tyr Thr Gln Lys Ser Leu Ser Leu Ser Pro Gly Lys
 435 440 445

<210> 66

<211> 570

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
mouse/human chimeric heavy chain

<400> 66

Glu Val Lys Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
 1 5 10 15
 Ser Met Lys Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Asp Ala
 20 25 30
 Trp Met Asp Trp Val Arg Gln Ser Pro Glu Lys Gly Leu Glu Trp Val
 35 40 45
 Ala Glu Ile Arg Ser Lys Ala Asn Asn His Ala Thr Tyr Tyr Ala Glu
 50 55 60
 Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Val Ser Lys Ser Ser
 65 70 75 80
 Val Tyr Leu Gln Met Asn Asn Leu Arg Ala Glu Asp Thr Gly Ile Tyr
 85 90 95
 Tyr Cys Thr Arg Gly Gly Tyr Gly Phe Asp Tyr Trp Gly Gln Gly Thr
 100 105 110
 Thr Leu Thr Val Ser Gly Ser Ala Ser Ala Pro Thr Leu Phe Pro Leu
 115 120 125
 Val Ser Cys Glu Asn Ser Pro Ser Asp Thr Ser Ser Val Ala Val Gly
 130 135 140

Cys 145	Leu	Ala	Gln	Asp	Phe 150	Leu	Pro	Asp	Ser	Ile 155	Thr	Leu	Ser	Trp	Lys 160
Tyr	Lys	Asn	Asn	Ser 165	Asp	Ile	Ser	Ser	Thr 170	Arg	Gly	Phe	Pro	Ser 175	Val
Leu	Arg	Gly	Gly 180	Lys	Tyr	Ala	Ala	Thr 185	Ser	Gln	Val	Leu	Leu	Pro	Ser 190
Lys	Asp	Val 195	Met	Gln	Gly	Thr	Asp 200	Glu	His	Val	Val	Cys 205	Lys	Val	Gln
His 210	Pro	Asn	Gly	Asn	Lys	Glu 215	Lys	Asn	Val	Pro	Leu 220	Pro	Val	Ile	Ala
Glu 225	Leu	Pro	Pro	Lys 230	Val	Ser	Val	Phe	Val	Pro 235	Pro	Arg	Asp	Gly	Phe 240
Phe	Gly	Asn	Pro	Arg 245	Lys	Ser	Lys	Leu	Ile 250	Cys	Gln	Ala	Thr	Gly 255	Phe
Ser	Pro	Arg	Gln 260	Ile	Gln	Val	Ser	Trp 265	Leu	Arg	Glu	Gly	Lys 270	Gln	Val
Gly	Ser 275	Gly	Val	Thr	Thr	Asp	Gln 280	Val	Gln	Ala	Glu	Ala 285	Lys	Glu	Ser
Gly 290	Pro	Thr	Thr	Tyr	Lys	Val 295	Thr	Ser	Thr	Leu	Thr 300	Ile	Lys	Glu	Ser
Asp 305	Trp	Leu	Gly	Gln	Ser 310	Met	Phe	Thr	Cys	Arg 315	Val	Asp	His	Arg	Gly 320
Leu	Thr	Phe	Gln 325	Gln	Asn	Ala	Ser	Ser	Met 330	Cys	Val	Pro	Asp	Gln 335	Asp
Thr	Ala	Ile 340	Arg	Val	Phe	Ala	Ile	Pro 345	Pro	Ser	Phe	Ala	Ser 350	Ile	Phe
Leu	Thr	Lys 355	Ser	Thr	Lys	Leu	Thr 360	Cys	Leu	Val	Thr	Asp 365	Leu	Thr	Thr
Tyr 370	Asp	Ser	Val	Thr	Ile	Ser 375	Trp	Thr	Arg	Gln	Asn 380	Gly	Glu	Ala	Val
Lys 385	Thr	His	Thr	Asn	Ile 390	Ser	Glu	Ser	His	Pro 395	Asn	Ala	Thr	Phe	Ser 400
Ala	Val	Gly	Glu 405	Ala	Ser	Ile	Cys	Glu	Asp 410	Asp	Trp	Asn	Ser	Gly 415	Glu
Arg	Phe	Thr 420	Cys	Thr	Val	Thr	His	Thr 425	Asp	Leu	Pro	Ser	Pro 430	Leu	Lys
Gln	Thr 435	Ile	Ser	Arg	Pro	Lys	Gly 440	Val	Ala	Leu	His	Arg 445	Pro	Asp	Val

Tyr Leu Leu Pro Pro Ala Arg Glu Gln Leu Asn Leu Arg Glu Ser Ala
 450 455 460
 Thr Ile Thr Cys Leu Val Thr Gly Phe Ser Pro Ala Asp Val Phe Val
 465 470 475 480
 Gln Trp Met Gln Arg Gly Gln Pro Leu Ser Pro Glu Lys Tyr Val Thr
 485 490 495
 Ser Ala Pro Met Pro Glu Pro Gln Ala Pro Gly Arg Tyr Phe Ala His
 500 505 510
 Ser Ile Leu Thr Val Ser Glu Glu Glu Trp Asn Thr Gly Glu Thr Tyr
 515 520 525
 Thr Cys Val Val Ala His Glu Ala Leu Pro Asn Arg Val Thr Glu Arg
 530 535 540
 Thr Val Asp Lys Ser Thr Gly Lys Pro Thr Leu Tyr Asn Val Ser Leu
 545 550 555 560
 Val Met Ser Asp Thr Ala Gly Thr Cys Tyr
 565 570

<210> 67

<211> 569

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
mouse/human chimeric heavy chain

<400> 67

Glu Val Lys Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
 1 5 10 15
 Ser Met Lys Leu Ser Cys Val Ala Ser Gly Phe Thr Phe Ser Asn Tyr
 20 25 30
 Trp Met Asn Trp Val Arg Gln Ser Pro Glu Lys Gly Leu Glu Trp Val
 35 40 45
 Ala Glu Ile Arg Leu Lys Ser Asn Asn Tyr Thr Thr His Tyr Ala Glu
 50 55 60
 Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asp Ser Lys Ser Ser
 65 70 75 80
 Val Ser Leu Gln Met Asn Asn Leu Arg Val Glu Asp Thr Gly Ile Tyr
 85 90 95
 Tyr Cys Thr Arg His Tyr Tyr Phe Asp Tyr Trp Gly Gln Gly Thr Thr
 100 105 110
 Leu Thr Val Ser Gly Ser Ala Ser Ala Pro Thr Leu Phe Pro Leu Val
 115 120 125

Ser	Cys	Glu	Asn	Ser	Pro	Ser	Asp	Thr	Ser	Ser	Val	Ala	Val	Gly	Cys	
130						135					140					
Leu	Ala	Gln	Asp	Phe	Leu	Pro	Asp	Ser	Ile	Thr	Leu	Ser	Trp	Lys	Tyr	
145					150					155					160	
Lys	Asn	Asn	Ser	Asp	Ile	Ser	Ser	Thr	Arg	Gly	Phe	Pro	Ser	Val	Leu	
				165					170					175		
Arg	Gly	Gly	Lys	Tyr	Ala	Ala	Thr	Ser	Gln	Val	Leu	Leu	Pro	Ser	Lys	
			180					185					190			
Asp	Val	Met	Gln	Gly	Thr	Asp	Glu	His	Val	Val	Cys	Lys	Val	Gln	His	
		195					200					205				
Pro	Asn	Gly	Asn	Lys	Glu	Lys	Asn	Val	Pro	Leu	Pro	Val	Ile	Ala	Glu	
	210					215					220					
Leu	Pro	Pro	Lys	Val	Ser	Val	Phe	Val	Pro	Pro	Arg	Asp	Gly	Phe	Phe	
225					230					235					240	
Gly	Asn	Pro	Arg	Lys	Ser	Lys	Leu	Ile	Cys	Gln	Ala	Thr	Gly	Phe	Ser	
				245					250					255		
Pro	Arg	Gln	Ile	Gln	Val	Ser	Trp	Leu	Arg	Glu	Gly	Lys	Gln	Val	Gly	
		260						265					270			
Ser	Gly	Val	Thr	Thr	Asp	Gln	Val	Gln	Ala	Glu	Ala	Lys	Glu	Ser	Gly	
		275					280					285				
Pro	Thr	Thr	Tyr	Lys	Val	Thr	Ser	Thr	Leu	Thr	Ile	Lys	Glu	Ser	Asp	
	290					295					300					
Trp	Leu	Gly	Gln	Ser	Met	Phe	Thr	Cys	Arg	Val	Asp	His	Arg	Gly	Leu	
305					310					315					320	
Thr	Phe	Gln	Gln	Asn	Ala	Ser	Ser	Met	Cys	Val	Pro	Asp	Gln	Asp	Thr	
				325					330					335		
Ala	Ile	Arg	Val	Phe	Ala	Ile	Pro	Pro	Ser	Phe	Ala	Ser	Ile	Phe	Leu	
		340						345					350			
Thr	Lys	Ser	Thr	Lys	Leu	Thr	Cys	Leu	Val	Thr	Asp	Leu	Thr	Thr	Tyr	
		355					360					365				
Asp	Ser	Val	Thr	Ile	Ser	Trp	Thr	Arg	Gln	Asn	Gly	Glu	Ala	Val	Lys	
	370					375					380					
Thr	His	Thr	Asn	Ile	Ser	Glu	Ser	His	Pro	Asn	Ala	Thr	Phe	Ser	Ala	
385					390					395					400	
Val	Gly	Glu	Ala	Ser	Ile	Cys	Glu	Asp	Asp	Trp	Asn	Ser	Gly	Glu	Arg	
				405					410					415		
Phe	Thr	Cys	Thr	Val	Thr	His	Thr	Asp	Leu	Pro	Ser	Pro	Leu	Lys	Gln	
			420					425					430			

Thr Ile Ser Arg Pro Lys Gly Val Ala Leu His Arg Pro Asp Val Tyr
 435 440 445
 Leu Leu Pro Pro Ala Arg Glu Gln Leu Asn Leu Arg Glu Ser Ala Thr
 450 455 460
 Ile Thr Cys Leu Val Thr Gly Phe Ser Pro Ala Asp Val Phe Val Gln
 465 470 475 480
 Trp Met Gln Arg Gly Gln Pro Leu Ser Pro Glu Lys Tyr Val Thr Ser
 485 490 495
 Ala Pro Met Pro Glu Pro Gln Ala Pro Gly Arg Tyr Phe Ala His Ser
 500 505 510
 Ile Leu Thr Val Ser Glu Glu Glu Trp Asn Thr Gly Glu Thr Tyr Thr
 515 520 525
 Cys Val Val Ala His Glu Ala Leu Pro Asn Arg Val Thr Glu Arg Thr
 530 535 540
 Val Asp Lys Ser Thr Gly Lys Pro Thr Leu Tyr Asn Val Ser Leu Val
 545 550 555 560
 Met Ser Asp Thr Ala Gly Thr Cys Tyr
 565

<210> 68

<211> 219

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
mouse/human chimeric light chain

<400> 68

Asp Ile Val Leu Thr Gln Thr Pro Leu Ser Leu Pro Val Ser Leu Gly
 1 5 10 15
 Asp Gln Ala Ser Ile Ser Cys Arg Ser Ser Gln Ser Ile Val His Ser
 20 25 30
 Asn Gly Asn Thr Tyr Leu Glu Trp Tyr Leu Gln Lys Pro Gly Gln Ser
 35 40 45
 Pro Lys Leu Leu Ile Tyr Lys Val Ser Asn Arg Phe Ser Gly Val Pro
 50 55 60
 Asp Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Lys Ile
 65 70 75 80
 Ser Arg Val Glu Ala Glu Asp Leu Gly Val Tyr Tyr Cys Phe Gln Gly
 85 90 95
 Ser His Val Pro Leu Thr Phe Gly Asp Gly Thr Lys Leu Glu Leu Lys
 100 105 110

Arg Thr Val Ala Ala Pro Ser Val Phe Ile Phe Pro Pro Ser Asp Glu
 115 120 125
 Gln Leu Lys Ser Gly Thr Ala Ser Val Val Cys Leu Leu Asn Asn Phe
 130 135 140
 Tyr Pro Arg Glu Ala Lys Val Gln Trp Lys Val Asp Asn Ala Leu Gln
 145 150 155 160
 Ser Gly Asn Ser Gln Glu Ser Val Thr Glu Gln Asp Ser Lys Asp Ser
 165 170 175
 Thr Tyr Ser Leu Ser Ser Thr Leu Thr Leu Ser Lys Ala Asp Tyr Glu
 180 185 190
 Lys His Lys Val Tyr Ala Cys Glu Val Thr His Gln Gly Leu Ser Ser
 195 200 205
 Pro Val Thr Lys Ser Phe Asn Arg Gly Glu Cys
 210 215

<210> 69
 <211> 219
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: Synthetic
 mouse/human chimeric light chain

<400> 69
 Asp Ile Val Met Thr Gln Ala Ala Phe Ser Asn Pro Val Thr Leu Gly
 1 5 10 15
 Thr Ser Ala Ser Ile Ser Cys Arg Ser Ser Lys Ser Leu Leu His Ser
 20 25 30
 Asn Gly Ile Thr Tyr Phe Phe Trp Tyr Leu Gln Lys Pro Gly Leu Ser
 35 40 45
 Pro Gln Leu Leu Ile Tyr Gln Met Ser Asn Leu Ala Ser Gly Val Pro
 50 55 60
 Asp Arg Phe Ser Ser Ser Gly Ser Gly Thr Asp Phe Thr Leu Arg Ile
 65 70 75 80
 Ser Arg Val Glu Ala Glu Asp Val Gly Val Tyr Tyr Cys Ala Gln Asn
 85 90 95
 Leu Glu Leu Pro Pro Thr Phe Gly Gly Gly Thr Lys Leu Glu Ile Lys
 100 105 110
 Arg Thr Val Ala Ala Pro Ser Val Phe Ile Phe Pro Pro Ser Asp Glu
 115 120 125

Gln Leu Lys Ser Gly Thr Ala Ser Val Val Cys Leu Leu Asn Asn Phe
 130 135 140

Tyr Pro Arg Glu Ala Lys Val Gln Trp Lys Val Asp Asn Ala Leu Gln
 145 150 155 160

Ser Gly Asn Ser Gln Glu Ser Val Thr Glu Gln Asp Ser Lys Asp Ser
 165 170 175

Thr Tyr Ser Leu Ser Ser Thr Leu Thr Leu Ser Lys Ala Asp Tyr Glu
 180 185 190

Lys His Lys Val Tyr Ala Cys Glu Val Thr His Gln Gly Leu Ser Ser
 195 200 205

Pro Val Thr Lys Ser Phe Asn Arg Gly Glu Cys
 210 215

<210> 70

<211> 30

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
 peptide

<400> 70

Ala Pro Pro Ala His Gly Val Thr Ser Ala Pro Asp Thr Arg Pro Ala
 1 5 10 15

Pro Gly Ser Thr Ala Pro Pro Ala His Gly Val Thr Ser Ala
 20 25 30

<210> 71

<211> 30

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
 peptide

<220>

<221> MOD_RES

<222> (13)

<223> Thr(GalNAc-alpha)

<400> 71

Ala Pro Pro Ala His Gly Val Thr Ser Ala Pro Asp Thr Arg Pro Ala
 1 5 10 15

Pro Gly Ser Thr Ala Pro Pro Ala His Gly Val Thr Ser Ala
 20 25 30

<210> 72
 <211> 100
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: Synthetic peptide

<220>
 <221> MOD_RES
 <222> (21)..(60)
 <223> Region may or may not be present

<220>
 <221> MOD_RES
 <222> (61)..(100)
 <223> Region may or may not be present

<400> 72
 Val Thr Ser Ala Pro Asp Thr Arg Pro Ala Pro Gly Ser Thr Ala Pro
 1 5 10 15
 Pro Ala His Gly Val Thr Ser Ala Pro Asp Thr Arg Pro Ala Pro Gly
 20 25 30
 Ser Thr Ala Pro Pro Ala His Gly Val Thr Ser Ala Pro Asp Thr Arg
 35 40 45
 Pro Ala Pro Gly Ser Thr Ala Pro Pro Ala His Gly Val Thr Ser Ala
 50 55 60
 Pro Asp Thr Arg Pro Ala Pro Gly Ser Thr Ala Pro Pro Ala His Gly
 65 70 75 80
 Val Thr Ser Ala Pro Asp Thr Arg Pro Ala Pro Gly Ser Thr Ala Pro
 85 90 95
 Pro Ala His Gly
 100

<210> 73
 <211> 101
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: Synthetic peptide

<220>
 <221> MOD_RES
 <222> (10)
 <223> Thr(GalNAc-alpha)

<220>
 <221> MOD_RES
 <222> (22)..(61)
 <223> region may or may not be present

<220>
 <221> MOD_RES
 <222> (30)
 <223> Thr(GalNAc-alpha), if present

<220>
 <221> MOD_RES
 <222> (50)
 <223> Thr(GalNAc-alpha), if present

<220>
 <221> MOD_RES
 <222> (62)..(101)
 <223> region may or may not be present

<220>
 <221> MOD_RES
 <222> (70)
 <223> Thr(GalNAc-alpha), if present

<220>
 <221> MOD_RES
 <222> (90)
 <223> Thr(GalNAc-alpha), if present

<400> 73
 Ala His Gly Val Thr Ser Ala Pro Asp Thr Arg Pro Ala Pro Gly Ser
 1 5 10 15
 Thr Ala Pro Pro Ala His Gly Val Thr Ser Ala Pro Asp Thr Arg Pro
 20 25 30
 Ala Pro Gly Ser Thr Ala Pro Pro Ala His Gly Val Thr Ser Ala Pro
 35 40 45
 Asp Thr Arg Pro Ala Pro Gly Ser Thr Ala Pro Pro Ala His Gly Val
 50 55 60
 Thr Ser Ala Pro Asp Thr Arg Pro Ala Pro Gly Ser Thr Ala Pro Pro
 65 70 75 80
 Ala His Gly Val Thr Ser Ala Pro Asp Thr Arg Pro Ala Pro Gly Ser
 85 90 95
 Thr Ala Pro Pro Ala
 100

<210> 74
 <211> 29
 <212> PRT
 <213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic peptide

<400> 74

Ala Pro Pro Ala His Gly Val Thr Ser Ala Pro Asp Thr Arg Pro Ala
1 5 10 15

Pro Gly Ser Thr Ala Pro Pro Ala His Gly Val Thr Ser
20 25

<210> 75

<211> 27

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic primer

<400> 75

aattggatcc gagcccagac actggac

27

<210> 76

<211> 27

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic primer

<400> 76

accgtctaga cgcactcatt taccgg

27

<210> 77

<211> 30

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic primer

<400> 77

acctggatcc gctaggaaga aactcaaaac

30

<210> 78

<211> 30

<212> DNA

<213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: Synthetic primer

 <400> 78
 accgtctaga ccctctaaca ctctcccctg 30

 <210> 79
 <211> 28
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> Description of Artificial Sequence: Synthetic primer

 <400> 79
 atcgggatcc gatagccatg acagtctg 28

 <210> 80
 <211> 26
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> Description of Artificial Sequence: Synthetic primer

 <400> 80
 agcgtctaga cagggtcagt agcagg 26

 <210> 81
 <211> 5
 <212> PRT
 <213> Artificial Sequence

 <220>
 <223> Description of Artificial Sequence: Synthetic peptide

 <400> 81
 Pro Asp Thr Arg Pro
 1 5

 <210> 82
 <211> 118
 <212> PRT
 <213> Artificial Sequence

 <220>
 <223> Description of Artificial Sequence: Synthetic variable heavy chain construct

<220>
 <221> MOD_RES
 <222> (23)
 <223> Ala or Val

<220>
 <221> MOD_RES
 <222> (24)
 <223> Ala, Val, Ser, or Thr

<220>
 <221> MOD_RES
 <222> (27)
 <223> Tyr, Phe, Ser, or Asp

<220>
 <221> MOD_RES
 <222> (29)
 <223> Phe, Leu, or Ile

<220>
 <221> MOD_RES
 <222> (31)..(35)
 <223> this region may encompass either SEQ ID NO: 1, SEQ ID NO: 2, or variants thereof

<220>
 <221> MOD_RES
 <222> (50)..(68)
 <223> this region may encompass either SEQ ID NO: 3, SEQ ID NO: 4, or variants thereof

<220>
 <221> MOD_RES
 <222> (76)
 <223> Asp or Val

<220>
 <221> MOD_RES
 <222> (82)
 <223> Tyr or Ser

<220>
 <221> MOD_RES
 <222> (90)
 <223> Ala or Val

<220>
 <221> MOD_RES
 <222> (100)
 <223> Arg, Gly, Asn, Lys, or Ser

<220>
 <221> MOD_RES
 <222> (101)..(106)
 <223> this region may encompass either residues 1-6 of SEQ ID NO: 5, SEQ ID NO: 6, or variants thereof

<220>
 <221> MOD_RES
 <222> (107)
 <223> Tyr or not present

<220>
 <221> MOD_RES
 <222> (118)
 <223> Ser or Ala

<400> 82
 Glu Val Lys Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
 1 5 10 15
 Ser Met Lys Leu Ser Cys Xaa Xaa Ser Gly Xaa Thr Xaa Ser Xaa Xaa
 20 25 30
 Xaa Xaa Xaa Trp Val Arg Gln Ser Pro Glu Lys Gly Leu Glu Trp Val
 35 40 45
 Ala Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
 50 55 60
 Xaa Xaa Xaa Xaa Arg Phe Thr Ile Ser Arg Asp Xaa Ser Lys Ser Ser
 65 70 75 80
 Val Xaa Leu Gln Met Asn Asn Leu Arg Xaa Glu Asp Thr Gly Ile Tyr
 85 90 95
 Tyr Cys Thr Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Trp Gly Gln Gly Thr
 100 105 110
 Thr Leu Thr Val Ser Xaa
 115

<210> 83
 <211> 114
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: Synthetic
 variable light chain construct

<220>
 <221> MOD_RES
 <222> (2)
 <223> Ile, Val, or Leu

<220>
 <221> MOD_RES
 <222> (4)
 <223> Met or Leu

<220>
<221> MOD_RES
<222> (7)
<223> Thr or Ala

<220>
<221> MOD_RES
<222> (8)
<223> Pro or Ala

<220>
<221> MOD_RES
<222> (9)
<223> Leu or Phe

<220>
<221> MOD_RES
<222> (11)
<223> Leu or Asn

<220>
<221> MOD_RES
<222> (14)
<223> Ser or Thr

<220>
<221> MOD_RES
<222> (17)
<223> Asp or Thr

<220>
<221> MOD_RES
<222> (18)
<223> Gln or Ser

<220>
<221> MOD_RES
<222> (24)..(39)
<223> this region may encompass either SEQ ID NO: 7, SEQ ID
NO: 8, or variants thereof

<220>
<221> MOD_RES
<222> (47)
<223> Gln or Leu

<220>
<221> MOD_RES
<222> (50)
<223> Lys or Gln

<220>
<221> MOD_RES
<222> (53)
<223> Ile or Val

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<220>
<221> MOD_RES
<222> (55)..(61)
<223> this region may encompass either SEQ ID NO: 9, SEQ ID
      NO: 10, or variants thereof

<220>
<221> MOD_RES
<222> (69)
<223> Gly or Ser

<220>
<221> MOD_RES
<222> (79)
<223> Lys or Arg

<220>
<221> MOD_RES
<222> (88)
<223> Leu or Val

<220>
<221> MOD_RES
<222> (94)..(102)
<223> this region may encompass either SEQ ID NO: 11, SEQ ID
      NO: 12, or variants thereof

<220>
<221> MOD_RES
<222> (105)
<223> Gly or Asp

<220>
<221> MOD_RES
<222> (111)
<223> Ile or Leu

<400> 83
Asp Xaa Val Xaa Thr Gln Xaa Xaa Xaa Ser Xaa Pro Val Xaa Leu Gly
  1             5             10             15

Xaa Xaa Ala Ser Ile Ser Cys Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
      20             25             30

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Trp Tyr Leu Gln Lys Pro Gly Xaa Ser
      35             40             45

Pro Xaa Leu Leu Xaa Tyr Xaa Xaa Xaa Xaa Xaa Xaa Xaa Gly Val Pro
      50             55             60

Asp Arg Phe Ser Xaa Ser Gly Ser Gly Thr Asp Phe Thr Leu Xaa Ile
      65             70             75             80

Ser Arg Val Glu Ala Glu Asp Xaa Gly Val Tyr Tyr Cys Xaa Xaa Xaa
      85             90             95

Xaa Xaa Xaa Xaa Xaa Xaa Phe Gly Xaa Gly Thr Lys Leu Glu Xaa Lys
      100            105            110

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Arg Ala

<210> 84
 <211> 30
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: Synthetic
 antibody framework heavy chain sequence

<220>
 <221> MOD_RES
 <222> (23)
 <223> Ala or Val

<220>
 <221> MOD_RES
 <222> (24)
 <223> Ala, Val, Ser, or Thr

<220>
 <221> MOD_RES
 <222> (27)
 <223> Tyr, Phe, Ser, or Asp

<220>
 <221> MOD_RES
 <222> (29)
 <223> Phe, Leu, or Ile

<400> 84
 Glu Val Lys Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
 1 5 10 15

Ser Met Lys Leu Ser Cys Xaa Xaa Ser Gly Xaa Thr Xaa Ser
 20 25 30

<210> 85
 <211> 14
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: Synthetic
 antibody framework heavy chain sequence

<400> 85
 Trp Val Arg Gln Ser Pro Glu Lys Gly Leu Glu Trp Val Ala
 1 5 10

<210> 86
 <211> 32
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: Synthetic
 antibody framework heavy chain sequence

<220>
 <221> MOD_RES
 <222> (8)
 <223> Asp or Val

<220>
 <221> MOD_RES
 <222> (14)
 <223> Tyr or Ser

<220>
 <221> MOD_RES
 <222> (22)
 <223> Ala or Val

<220>
 <221> MOD_RES
 <222> (32)
 <223> Arg, Gly, Asn, Lys, or Ser

<400> 86
 Arg Phe Thr Ile Ser Arg Asp Xaa Ser Lys Ser Ser Val Xaa Leu Gln
 1 5 10 15

Met Asn Asn Leu Arg Xaa Glu Asp Thr Gly Ile Tyr Tyr Cys Thr Xaa
 20 25 30

<210> 87
 <211> 11
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: Synthetic
 antibody framework heavy chain sequence

<220>
 <221> MOD_RES
 <222> (11)
 <223> Ser or Ala

<400> 87
 Trp Gly Gln Gly Thr Thr Leu Thr Val Ser Xaa
 1 5 10

<210> 88
 <211> 23
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: Synthetic
 antibody framework light chain sequence

<220>
 <221> MOD_RES
 <222> (2)
 <223> Ile, Val, or Leu

<220>
 <221> MOD_RES
 <222> (4)
 <223> Met or Leu

<220>
 <221> MOD_RES
 <222> (7)
 <223> Thr or Ala

<220>
 <221> MOD_RES
 <222> (8)
 <223> Phe or Ala

<220>
 <221> MOD_RES
 <222> (9)
 <223> Leu or Phe

<220>
 <221> MOD_RES
 <222> (11)
 <223> Leu or Asn

<220>
 <221> MOD_RES
 <222> (14)
 <223> Ser or Thr

<220>
 <221> MOD_RES
 <222> (17)
 <223> Asp or Thr

<220>
 <221> MOD_RES
 <222> (18)
 <223> Gln or Ser

<400> 88
 Asp Xaa Val Xaa Thr Gln Xaa Xaa Xaa Ser Xaa Pro Val Xaa Leu Gly
 1 5 10 15

Xaa Xaa Ala Ser Ile Ser Cys
20

<210> 89
<211> 15
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
antibody framework light chain sequence

<220>
<221> MOD_RES
<222> (8)
<223> Gln or Leu

<220>
<221> MOD_RES
<222> (11)
<223> Lys or Gln

<220>
<221> MOD_RES
<222> (14)
<223> Ile or Val

<400> 89
Trp Tyr Leu Gln Lys Pro Gly Xaa Ser Pro Xaa Leu Leu Xaa Tyr
1 5 10 15

<210> 90
<211> 32
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
antibody framework light chain sequence

<220>
<221> MOD_RES
<222> (8)
<223> Gly or Ser

<220>
<221> MOD_RES
<222> (18)
<223> Lys or Arg

<220>
<221> MOD_RES
<222> (27)
<223> Leu or Val

<400> 90
 Gly Val Pro Asp Arg Phe Ser Xaa Ser Gly Ser Gly Thr Asp Phe Thr
 1 5 10 15

Leu Xaa Ile Ser Arg Val Glu Ala Glu Asp Xaa Gly Val Tyr Tyr Cys
 20 25 30

<210> 91
 <211> 12
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: Synthetic
 antibody framework light chain sequence

<220>
 <221> MOD_RES
 <222> (3)
 <223> Gly or Asp

<220>
 <221> MOD_RES
 <222> (9)
 <223> Ile or Leu

<400> 91
 Phe Gly Xaa Gly Thr Lys Leu Glu Xaa Lys Arg Ala
 1 5 10

<210> 92
 <211> 5
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: Synthetic
 peptide

<220>
 <221> MOD_RES
 <222> (4)
 <223> Met, Ile, Val, Tyr or Trp

<400> 92
 Asp Ala Trp Xaa Asp
 1 5

<210> 93
 <211> 5
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: Synthetic peptide

<220>
 <221> MOD_RES
 <222> (4)
 <223> Met, Val, Ile, Tyr or Trp

<400> 93
 Asn Tyr Trp Xaa Asn
 1 5

<210> 94
 <211> 19
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: Synthetic peptide

<220>
 <221> MOD_RES
 <222> (9)
 <223> His or Tyr

<400> 94
 Glu Ile Arg Ser Lys Ala Asn Asn Xaa Ala Thr Tyr Tyr Ala Glu Ser
 1 5 10 15

Val Lys Gly

<210> 95
 <211> 19
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: Synthetic peptide

<220>
 <221> MOD_RES
 <222> (8)
 <223> Asn, Lys or Ser

<400> 95
 Glu Ile Arg Leu Lys Ser Asn Xaa Tyr Thr Thr His Tyr Ala Glu Ser
 1 5 10 15

Val Lys Gly

<210> 96
 <211> 16
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: Synthetic peptide

<220>
 <221> MOD_RES
 <222> (2)
 <223> Ser or Pro

<220>
 <221> MOD_RES
 <222> (15)
 <223> Leu or Phe

<400> 96
 Arg Xaa Ser Gln Ser Ile Val His Ser Asn Gly Asn Thr Tyr Xaa Glu
 1 5 10 15

<210> 97
 <211> 16
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: Synthetic peptide

<220>
 <221> MOD_RES
 <222> (2)
 <223> Ser or Pro

<220>
 <221> MOD_RES
 <222> (15)
 <223> Leu or Phe

<400> 97
 Arg Xaa Ser Lys Ser Leu Leu His Ser Asn Gly Ile Thr Tyr Xaa Phe
 1 5 10 15

<210> 98
 <211> 9
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: Synthetic peptide

<220>

<221> MOD_RES

<222> (6)

<223> Val or Pro

<400> 98

Phe Gln Gly Ser His Xaa Pro Leu Thr

1

5

<210> 99

<211> 9

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
peptide

<220>

<221> MOD_RES

<222> (6)

<223> Leu or Pro

<400> 99

Ala Gln Asn Leu Glu Xaa Pro Pro Thr

1

5